

Northamptonshire County Council.

Annual Report

OF THE

Medical Officer of Health,

FOR THE YEAR 1921,

INCLUDING BRIEF

ABSTRACTS FROM THE ANNUAL REPORTS OF THE
DISTRICT MEDICAL OFFICERS OF HEALTH

BY

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County Medical Officer of Health,

TOGETHER WITH

SUPPLEMENTARY REPORTS BY THE CHIEF
TUBERCULOSIS OFFICER,

O. A. J. N. MURISSET, M.B.,

AND THE

LADY MEDICAL OFFICER,

LILA S. GREIG, M.B., D.P.H.

KETTERING :

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TABLE OF CONTENTS.

	PAGE
Prefatory Remarks	5
Local Inquiries	6
Rushden House Sanatorium	6
Reports of Medical Officers of Health	8
Area and Population (Census of 1921)	10
Births	12
Deaths	13
General Mortality	13
Infantile Mortality	15
Tuberculosis Mortality	17
Respiratory Diseases Mortality	18
General Zymotic Mortality	20
Special Zymotic Diseases and Mortality	22
Small Pox	22
Scarlet Fever	22
Diphtheria and Membranous Croup	22
Enteric Fever	23
Puerperal Fever	24
Erysipelas	24
Measles	24
Whooping Cough	24
Chicken Pox	25
Diarrhœa and Enteritis	25
Influenza	25
Pneumonia	25
Malaria	26
Dysentery	26
Acute Poliomyelitis	26
Acute Polio-encephalitis	26
Acute Encephalitis Lethargica	26
Cerebro-Spinal Fever	27
Ophthalmia Neonatorum	27
Mumps	27

TABLE OF CONTENTS—*Continued.*

	PAGE
Vaccination	27
Venereal Diseases	28
Isolation Hospitals and Disinfection	30
Schools	31
Water Supply	32
Dwelling Houses and Overcrowding	34
Sewerage and Sewage Disposal (Pollution of Streams)	35
Dairy Cattle	36
Food Inspection and Adulteration	38
<hr/>	
List of Medical Officers of Health for 1922	44
Appendix I. Report of Chief Tuberculosis Officer	45
Appendix II. Report of Lady Medical Officer on Maternity and Child Welfare Work	58
Mortality and Statistical Tables I., II.	

Northamptonshire County Council.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR 1921.

I HAVE the honour herewith to present the Twenty-fifth Annual Report of the Medical Officer of Health to the County Council of Northamptonshire, including brief abstracts from the Annual Reports of Medical Officers of Health for the several Boroughs and Districts within the Administrative County. The plan of the report is similar to that of its predecessors. Supplementary reports are appended on Tuberculosis and Maternity and Child Welfare by the Medical Officers in charge of those sections of the Public Health Department of the County Council. In regard to these officers, it has to be said that Dr. Lila S. Greig continues to act as Inspector of Midwives and as supervisor of all work under the Maternity and Child Welfare Act; but I regret that, after a period of nine years of very able service,—partly interrupted, however, by military service during the Great War—Dr. Muriset decided to relinquish his appointment as Tuberculosis Officer in order to undertake private medical practice. The present Tuberculosis Officer is Dr. David Dempster, M.C.; but, as he did not take part in any of the work of his office during the year under review, the facts with regard to Dispensary work and Institutional Treatment have been supplied, as previously, by Dr. Muriset in Appendix I.

I have to report that there were five **Local Inquiries** held during the year by Officers of the Ministry of Health, in regard to works for public health purposes, and as herewith set out :—

<i>Date.</i>	<i>District.</i>	<i>Subject.</i>	<i>Result.</i>
15th March...	Oundle Urban ...	Sanction to borrow £1,100 for provision of additional Pumping Plant at the Waterworks ...	Sanctioned.
16th ,, ...	Kettering Rural	Sanction to borrow £350 for experimental works for Water Supply in the Parish of Corby ...	Sanctioned.*
17th ,, ...	Kettering Urban	Sanction to borrow £4,260 for the installation of new Pumping Plant at Cransley Waterworks ...	Deferred.
1st June ...	Raunds Urban ...	Sanction to borrow £700 for the enlargement of a well at the Waterworks ...	Amount increased to £900.
16th Aug. ...	Northampton Rural	Sanction to borrow £7,000 for Works of Sewerage in the Parish of Weston Favell ...	Sanctioned.
			£5,575
			Sanctioned.

* This matter is dealt with more fully under the heading of " Water Supply."

It will be remembered that a scheme was decided upon by the Council in January, 1920, for the adaptation and equipment of **Rushden House** and grounds as a **Sanatorium** for the treatment of early, middle and advanced cases of Tuberculosis, with a prospective provision of sixty-six beds. Plans for this purpose were prepared, therefore, by the County Surveyor in consultation with the Chief Tuberculosis Officer, and were submitted subsequently to the Ministry of Health by these officers for approval or amendment. Certain alterations in these plans were suggested, but as they would have involved expenditure exceeding that anticipated and approved by the Council at the meeting in January, a further

conference with the Ministry took place in July, 1920, at which the Chairman of the Public Health, &c., Committee was present. The outcome of this interview was that, in the following October, it was possible to report that substantial progress had been made in the work of converting Rushden House into an institution for the treatment of Tuberculosis. In spite of serious difficulties with which the Council had to contend, involving revision of the original estimates, owing in part to local labour being unprocurable, works additional to the original plans being found necessary, and advances in the cost of labour and material since the date of the first estimate of total cost, the work of conversion was proceeded with steadily. The number of beds to be provided was increased, however, to sixty-eight, which included two in the male and female wards additional to those contemplated under the original scheme. In March, 1921, an inspection of the buildings of the Sanatorium was made by a Medical Officer and Architect of the Ministry of Health, and it was reported to the Council in May following that a communication had been received from the Ministry to the effect that these Officers had reported that "the structural work of providing the institution has been well and economically carried out." The progress of the work of conversion had been such that, in May also, it was reported further to the Council that necessity for steps to be taken to prepare the institution for opening had arisen, and that Miss B. C. Allsop, then Sub-Matron of the Royal Sea Bathing Hospital, Margate, was recommended for appointment as Matron. This appointment was made, subject to one month's notice on either side, and steps were thereafter taken in respect of the requisite furnishing of the institution as well as in settlement of the number and personnel of the staff and the terms of their appointment. As the outcome of these proceedings, it was reported to the Council at its meeting held the 27th October, 1921, that Mr. J. H. Crane, M.B.E., M.D., of Park Hill Sanatorium, Dingle, Liverpool, had been appointed Resident Medical Officer, that all the appointments on the domestic and nursing staff had been filled, and that on this date there

would be a total of 36 patients in the Sanatorium, with the anticipation that, apart from 18 beds set ~~apart~~^{side} to be let to other authorities, it might be assumed there would be 50 county patients in residence by the following Christmas. This anticipation was practically fulfilled.

At the same meeting of the Council, the Chief Tuberculosis Officer, Dr. Muriset, had been confirmed in his appointment by the Public Health &c., Committee as Medical Superintendent of the Rushden House Sanatorium, and it was unfortunate that unforeseen circumstances arose to prevent his continuance in that office for more than a few months, owing to his then resignation of all offices for the purpose of entering on private medical practice. In the situation thus created, the whole question of determining the manner of the future carrying out of the duties in connection with the Treatment of Tuberculosis in the County came up for consideration by the Public Health &c., Committee, on the 19th November following. It was ultimately decided that the Resident Medical Officer at the Rushden House Sanatorium should be officially appointed the Medical Superintendent of that institution, and that the Tuberculosis Officer appointed to the charge of the Tuberculosis Dispensary System in the County should be freed from any executive duties in connection with the administration of the Sanatorium. It is not possible for me to leave this subject without regretful reference to the unexpected demise of Mr. Alfred Webb, the Chairman of the Public Health, &c. Committee, at the time when his devoted and untiring work in connection with the initiation and development of Rushden House as a Sanatorium, was on the eve of fruition by the opening of the Institution for the reception of patients.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

In respect of the Reports of the District Medical Officers of Health, it has to be said that the lamented death of one officer made the compilation of the report for the Potterspury Rural District impossible within the time ordinarily anticipated. With regard to the others, it should be mentioned

that these were prepared to date under unexpected difficulty owing to the delay in the receipt from the Registrar-General of the tables showing the births, deaths, and estimated populations, which, while expected at the beginning of March, were not received by me until the morning of the 27th of that month. This delay was occasioned through the pressure of Census and other work in the Registrar-General's office, which interfered with the despatch of the annual vital statistics at an earlier date. It is due to the courtesy of so many of the District Medical Officers of Health in favouring me with an examination of the manuscript of their reports, before transmission to the printers, that I have been enabled to make note of their recommendations for the purposes of this one.

The following table shows the date on, and the form in which the respective Annual Reports were received :—

NAME OF DISTRICT.	DATE OF RECEIPT.	FORM.
Crick Rural ...	31st March, 1922	M.S.
Brackley Rural ...	7th April ...	Printed.
Rothwell Urban ...	7th „ ...	M.S.
Kettering Urban ...	12th „ ...	Typed.
Thrapston Rural ...	12th „ ...	Printed.
Brackley Borough ...	18th „ ...	„
Oundle Rural ...	20th „ ...	„
Hardingstone Rural ...	22nd „ ...	„
Northampton Rural ...	22nd „ ...	„
Raunds Urban ...	24th „ ...	„
Brixworth Rural ...	24th „ ...	„
Towcester Rural ...	26th „ ...	„
Daventry Rural ...	28th „ ...	„
Middleton Cheney Rural	29th „ ...	„
Daventry Borough ...	1st May ...	„
Kettering Rural ...	5th „ ...	„
Gretton Rural ...	11th „ ...	Typed.
Oxendon Rural ...	11th „ ...	Printed.
Irthlingborough Urban...	18th „ ...	„

NAME OF DISTRICT.	DATE OF RECEIPT.			FORM.
Wellingborough Urban	19th	May	...	Typed.
Desborough Urban ...	20th	„	...	„
Rushden Urban ...	20th	„	...	Printed.
Wellingborough Rural ...	26th	„	...	Typed
Easton-on-the-Hill Rural	27th	„	...	„
Finedon Urban ...	30th	„	...	Printed.
Higham Ferrers Borough	31st	„	..	„
Oundle Urban ...	16th	June	...	„

AREA AND POPULATION.

Area. There was no change in the area of the Administrative County during the year. The twelve Urban Districts have a total area of 40,032 acres, and the sixteen Rural Districts of 541,647 acres, making a total area for the County of 581,679 acres.

Population. Owing to the delay occasioned by the necessary postponement of the Census of England and Wales from April to the 19/20 June, 1921, there was only a Preliminary Report of results available for study at the end of the year. The comments now made thereon are open, therefore, to subsequent revision, though there is every likelihood of their being approximately accurate. It may be found useful to group the notes on the County Census figures in the following manner :—

1. **General.** (a) The estimate of total population for the County by the Registrar-General for the year 1920 appears to have somewhat exceeded the actual population.
- (b) My own belief that the population for 1920 had not been over-estimated by the Registrar-General appears to have been misplaced.
- (c) Instead of an increase of population for 1920 over the Census of 1911—estimated for birth-rate calculation as 2,235 persons—there was a recorded decrease at the Census in 1921 of 2,226 persons.

2. Detailed. (a) There was a nett increase at the 1921 Census, as compared with the 1911 Census, of 501 persons in the Combined Municipal Boroughs and Urban Districts, and a nett decrease of 2,727 persons in the Combined Rural Districts of the Administrative County.
- (b) The decreases in the Urban Districts were in respect of Brackley Borough (260), Kettering (280), Oundle (94), Raunds (111), and Rothwell (48), while the largest of the increases was in the Wellingborough District (612).
- (c) The increases in the Rural Districts were in respect of Crick (69), Daventry (365), and Northampton (638) only, while the largest decreases were in the Brackley (546), Oundle (523), Potterspury (477), and Towcester (565) Districts.

The factors in this County possibly conducing to these results, as compared with a census taken in the month of April, and apart from the known loss of life through the War, may be found in the commencement of the annual summer holiday season, a considerable trade depression, and an uncertain migratory movement overseas. But, whatever may transpire to have been the particular reasons for the ascertained total decrease of population in the Administrative County at the Census of 1921, the Preliminary Census Return showed a population of 211,507, as against 213,733 in the year 1911.

The nett decrease of population, therefore, for the whole Administrative County during the intercensal period 1911-21 was 2,226. It is usual after each Census to revise the birth rate and the various death rates for the intervening years between the previous census; but, owing to the abnormal conditions created by the War, any revision attempted in respect of the immediate past ten years would be likely to produce less authentic statistics than those already given in my Annual Reports for those years, and I propose in making comparisons for birth-rate and death-rate purposes, to adhere to the figures as shewn in the latter.

BIRTHS.

The births during the year 1921, shewed a decrease of 747 as compared with the year 1920, being 4,166 against 4,913, and giving a birth-rate of 19.57 per 1,000 of the population as against 22.74. The birth-rate for England and Wales was 22.4, as against 25.4 for the year 1920, or a decrease of 3.0 per 1,000 of the population, with which the decrease of 3.17 for this Administrative County shews only slightly worse comparison.

For the ten years 1911-20, the average birth-rate was 18.19, or 1.38 per 1,000 of the population below the rate for 1921.

The births for the Combined Urban Districts were 1,882, and for the Combined Rural Districts 2,284, and it may be noted that for the whole Administrative County, the male births exceeded the female births by 120.

The average birth-rate of the whole Administrative County per 1,000 of population, and of the Combined Urban and Rural Districts respectively for the years 1912-1921 is shown in the following table, together with, for purposes of comparison, the corresponding rates for England and Wales :—

Areas.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Adminis- trative County ...	19.90	19.92	19.14	18.54	17.34	15.07	14.34	14.52	22.74	19.57
Urban Districts ...	20.23	20.57	18.84	18.64	17.31	14.83	13.12	14.11	21.50	19.35
Rural Districts	19.63	19.39	19.39	18.45	17.37	15.28	15.41	14.88	23.82	19.77
England & Wales ...	23.8	23.9	23.8	21.8	21.6	17.8	17.7	18.5	25.4	22.4

In no District did the deaths exceed the births, but in the Oundle Urban District the figures were identical, viz., 25.

The birth-rates varied in the Urban Districts from 9.3 per 1,000 of the population in the Oundle District to 26.4 per

1,000 in the Finedon District, and in the Rural Districts the variation was from 15.8 per 1,000 in the Oxendon District to 26.2 per 1,000 in the Easton-on-the-Hill District.

Arranged in the order of their birth-rates the Urban Districts stand thus :—

<i>Per 1,000 of Population</i>			<i>Per 1,000 of Population</i>		
Oundle	...	9.3	Irthlingborough	...	18.3
Rothwell	...	15.5	Daventry Borough	...	18.4
Higham Ferrers Boro'	16.1		Kettering	...	19.7
Raunds	...	16.2	Rushden	...	19.8
Desborough	...	17.4	Wellingborough	...	21.1
Brackley Borough	...	17.5	Finedon	...	26.4

The position of the Rural Districts in respect of their birth-rates is as follows :—

<i>Per 1,000 of Population</i>			<i>Per 1,000 of Population</i>		
Oxendon	...	15.8	Brackley	...	20.1
Northampton	...	16.8	Middleton Cheney	...	20.2
Kettering	...	18.1	Wellingborough	...	20.7
Crick	...	18.8	Potterspury	...	21.2
Oundle	...	19.3	Towcester	...	21.2
Brixworth	...	19.4	Gretton	...	21.5
Thrapston	...	19.9	Hardingstone	...	21.5
Daventry	...	20.0	Easton-on-the-Hill	...	26.2

DEATHS.

General Mortality.—The general mortality rate per 1,000 of the population for the whole Administrative County for the year 1921 was slightly higher than the rate for 1920, being 11.84 as against 11.09, but was lower than the average rate of 12.64 for the ten years 1911-1920. For England and Wales the rate was 12.1 for the year 1921 as against 12.4 for 1920, and 14.1 for the ten year period 1911-1920. The rate for the Administrative County as compared with England and Wales

was thus lower by 0.26 per 1,000 of the population for the year 1921, and by 1.46 for the ten year period mentioned.

The Combined Urban Districts had 1,090 deaths, and the Combined Rural Districts 1,424 deaths, giving a total for the Administrative County of 2,514, as against 2,393 in 1920, or an increase of 121.

There was an excess of nine female deaths in the Combined Urban Districts, and in the Combined Rural Districts an excess of 27 male deaths, or for the whole Administrative County a nett excess of 18 male deaths over female deaths.

The following table shows the general mortality rates for the Administrative County, England and Wales, and for the 96 large towns during the years 1912-21 :—

Areas.	1912	1913*	1914*	1915*	1916	1917	1918	1919	1920	1921
Adminis- trative County ...	12.09	10.58	10.82	12.88	13.33	14.01	15.25	13.84	11.09	11.84
England & Wales ...	12.9	13.3	13.7	14.8	14.0	14.4	17.6	13.8	12.4	12.1
Large Towns in England & Wales ...	14.6	14.3	15.0	15.9	14.4	14.6	18.2	13.8	12.5	12.3

* County death-rates standardized by the factor of the Registrar-General in these years.

The general death-rate varied in the Urban Districts from 7.6 per 1,000 of the population in the Desborough District to 14.7 per 1,000 in Daventry Borough, and in the Rural Districts the variation was from 7.9 per 1,000 in the Middleton Cheney District to 17.4 per 1,000 in the Easton-on-the-Hill District.

Arranged in the order of their general death-rates, the Urban Districts stand thus :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Desborough	... 7.6	Higham Ferrers Boro'	10.9
Oundle	... 9.3	Wellingborough	... 11.5
Irthlingborough	... 9.5	Kettering	... 11.6
Finedon	... 9.9	Brackley Borough	... 12.5
Raunds	... 10.2	Rothwell	... 13.3
Rushden	... 10.7	Daventry Borough	... 14.7

The position of the Rural Districts in respect of their general death-rates is as follows :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Middleton Cheney	... 7.9	Towcester	... 13.2
Northampton	... 8.8	Wellingborough	... 13.2
Kettering	... 10.6	Daventry	... 13.4
Brixworth	... 11.2	Oundle	... 13.4
Crick	... 11.2	Brackley	... 13.8
Gretton	... 11.5	Oxendon	... 14.3
Thrapston	... 11.5	Hardingstone	... 15.3
Potterspury	... 11.8	Easton-on-the-Hill	... 17.4

Infantile Mortality.—The very favourable infantile mortality rate for the year 1920 was not continued, I regret to say, during the year 1921, being 72 per 1,000 births as against 59 ; it was, however, lower than in any other year on record with the exception of the years 1916 and 1918, when it was 66 and 67 respectively, and also lower by 6 than the average for the ten years 1911-1920, when it was 78 per 1,000 births.

The rate for England and Wales for the year 1921 was 83 as against 80 for the year 1920, and as against 100 for the ten year period 1911-20, as compared with rates of 72, 59, and 78 per 1,000 births respectively for the Administrative County. The average infantile death-rate for the whole Administrative County per 1,000 births, and of the Combined Urban and Rural Districts respectively, for the years 1912-21, is shown in the following table together with, for purposes

of comparison, the corresponding rates for England and Wales, and for the large towns taken from the Registrar-General's returns.

Areas	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Adminis- trative County ...	79	85	73	95	66	81	67	80	59	72
Urban Districts ...	88	89	81	96	72	81	71	94	63	83
Rural Districts....	72	82	67	94	61	81	64	69	56	62
England & Wales ...	95	109	105	110	91	97	97	89	80	83
Large Towns in England & Wales ...	101	117	114	117	99	104	106	93	85	87

The operations in relation to infant life under the County Council's Maternity and Child Welfare Scheme are contained in the Supplementary Report of the Lady Medical Officer, which appears as Appendix II. of this report. It should be noted that the Council's scheme does not include the Urban District of Kettering, where the work of Maternity and Child Welfare is separately administered.

Arranged in the order of their infantile mortality rates the Urban Districts stand thus :—

	<i>Per 1,000 Births.</i>		<i>Per 1,000 Births.</i>
Brackley Borough ...	0.0	Daventry Borough ...	76.9
Higham Ferrers Boro'	42.5	Oundle ...	80.0
Raunds ...	48.3	Rushden ...	80.5
Desborough ...	54.7	Kettering ...	94.4
Irthlingborough ...	66.6	Wellingborough ...	98.6
Finedon ...	74.7	Rothwell ...	101.4

The position of the Rural Districts in respect of their infantile mortality rates is as follows :—

	<i>Per 1,000 Births.</i>		<i>Per 1,000 Births.</i>
Oxendon ...	15.8	Potterspury ...	60.0
Middleton Cheney ...	19.6	Oundle ...	63.4
Crick ...	22.2	Kettering ...	65.2
Brackley ...	45.1	Wellingborough ...	76.9
Northampton ...	48.3	Hardingstone ...	80.7
Thrapston ...	48.5	Easton-on-the-Hill ...	83.3
Daventry ...	53.0	Towcester ...	99.5
Brixworth ...	57.7	Gretton ...	100.0

Tuberculosis Mortality.—The total number of cases of Tuberculosis notified during the year 1921 was 312 as against 345 in the year 1920, and as against 409 cases in the year 1919. In the Combined Urban Districts there were 175 cases, and in the Combined Rural Districts 137 cases.

The total deaths registered from all tuberculous diseases was 218, of which 120 were in the Combined Urban Districts and 98 in the Combined Rural Districts. The mortality rate for the Administrative County was 1.02 per 1,000 of the population as against 0.94 for the year 1920, as against an average rate of 1.05 for the five years 1911-15, and as against 1.31 for the five years 1916-1920. (For the years 1911 and 1912 only deaths from Pulmonary Tuberculosis are included, other forms of Tuberculosis not being compulsorily notifiable until the year 1913.)

The following table shows the number of deaths from Tuberculosis, and the rates per 1,000 of the population for the whole Administrative County in the ten years 1912-1921 :

Area.	Tubercu- losis.	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Adminis- trative County	No. of Deaths.	*									
	Rate per 1,000										
		197	250	228	261	302	284	289	235	204	218
		0.91	1.15	1.05	1.23	1.49	1.49	1.50	1.13	0.94	1.02

* This column refers to deaths from Pulmonary Tuberculosis only ;
later years include all forms of Tuberculosis.

I have furnished the Ministry of Health with a summary of the notifications under the Public Health (Tuberculosis) Regulations, 1912, for the period 2nd January to 31st December, 1921, similar to Summaries sent in previous years. This Summary is included, therefore, in this report.

Arranged in the order of their Tuberculosis death-rates the Urban Districts stand thus :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Higham Ferrers Boro'	0.34	Finedon ...	0.99
Oundle ...	0.37	Rushden ...	1.23
Rothwell ...	0.67	Kettering ...	1.39
Desborough ...	0.71	Wellingborough ...	1.40
Raunds ...	0.78	Brackley Borough ...	1.66
Daventry Borough ...	0.85	Irthlingborough ...	2.03

The position of the Rural Districts in respect of their Tuberculosis death-rates is as follows :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Easton-on-the-Hill	0.00	Kettering ...	0.78
Towcester ...	0.50	Middleton Cheney ...	0.79
Oundle ...	0.61	Northampton ...	0.81
Potterspury ...	0.63	Crick ...	0.83
Gretton ...	0.71	Thrapston ...	0.87
Daventry ...	0.73	Hardingstone ...	1.06
Oxendon ...	0.75	Wellingborough ...	1.11
Brixworth ...	0.77	Brackley ...	1.82

No death occurred from Tuberculosis in the Easton-on-the-Hill Rural District.

Respiratory Diseases Mortality.—(Bronchitis and Pneumonia).—The deaths from these diseases during the year 1921 amounted to 260, as against 243 in the year 1920, and as against an average of 329 for the ten years 1911-20. For the first five of these years the average mortality was 342, and

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

Summary of Notifications during the period from the 2nd January, 1921, to the 31st December, 1921, in the County of Northampton.

AGE PERIODS.	NOTIFICATIONS ON FORM A.													NOTIFICATIONS ON FORM B.				NUMBER OF NOTIFICATIONS ON FORM C.		
	NUMBER OF PRIMARY NOTIFICATIONS.												Total Notifications on Form A.	NUMBER OF PRIMARY NOTIFICATIONS.				Total Notifications on Form B.	Poor Law Institutions.	Sanatoria.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	TOTAL Primary Notifica- tions.		Under 5	5 to 10	10 to 15	TOTAL Primary Notifica- tions.			
Pulmonary Males ...	...	1	6	3	18	27	31	12	13	4	5	120	120	...	1	2	3	3	1	20
Pulmonary Females ...	...	...	8	9	15	34	37	13	13	4	2	135	135	...	1	...	1	1	2	13
Non-pulmonary Males ...	1	4	4	1	3	1	5	...	2	...	...	21	21	1	2	...	3	3	...	...
Non-pulmonary Females	1	2	2	5	8	2	7	2	...	...	...	29	29	...	...	...	...	...	...	...
TOTALS ...	2	7	20	18	44	64	80	27	28	8	7	305	305	1	4	2	7	7	3	33
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

The Primary Notifications on Form A. refer to Notifications by Medical Practitioners (other than School Medical Inspectors) of cases not previously notified.
(Column 14 includes Primary and Duplicate Notifications.)

The Primary Notifications on Form B. refer to Notifications by School Medical Inspectors of cases not previously notified. (Column 19 includes Primary and Duplicate Notifications.)

The Notifications on Form C. refer to Notifications by Medical Officers of Poor Law Institutions and Sanatoria of patient who were notified before admission.

for the last five years 317. The mortality rate for 1921 was 1.22 per 1,000 of the population, as against 1.12 for the year 1920, and as against an average mortality rate of 1.58 for the ten years 1911-20.

Of the deaths during the year 1921, 118 occurred in the Combined Urban Districts, and 142 in the Combined Rural Districts.

No deaths from Respiratory Diseases occurred in the Crick, Easton-on-the-Hill, and Gretton Rural Districts.

The following table shows the number of deaths from the respiratory diseases, and the rate per 1,000 of the population for the whole Administrative County, for the ten years 1912-21 :—

Area.	Respiratory Diseases	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Administrative County	No. of Deaths	339	308	319	464	341	332	315	356	243	260
	Rate per 1,000	1.57	1.42	1.47	2.20	1.68	1.74	1.63	1.71	1.12	1.22

Arranged in the order of their Respiratory death-rates the Urban Districts stand thus :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Raunds ...	0.26	Oundle ...	1.12
Irthlingborough ...	0.40	Rothwell ...	1.12
Desborough ...	0.47	Daventry Borough ...	1.70
Brackley Borough ...	0.83	Higham Ferrers Boro' ...	1.71
Rushden ...	0.94	Kettering ...	1.72
Wellingborough ...	0.97	Finedon ...	1.73

The position of the Rural Districts in respect of their Respiratory death-rates is as follows :—

			<i>Per 1,000 of Population</i>				<i>Per 1,000 of Population</i>
Crick ...	...	...	0.00	Brackley	...	...	1.21
Easton-on-the-Hill			0.00	Oxendon	...	...	1.25
Gretton	...	...	0.00	Kettering	...	...	1.34
Oundle	...	...	0.76	Northampton	...	...	1.35
Middleton Cheney	...		0.79	Wellingborough	...	...	1.51
Brixworth	...	...	0.86	Hardingstone	...	...	1.73
Towcester	...	...	0.90	Thrapston	...	...	1.74
Daventry	...	...	1.17	Potterspury	...	...	2.12

General Zymotic Mortality.—The total number of deaths from the chief zymotic diseases, viz. :—Small-pox, Scarlet Fever, Diphtheria, Enteric Fever, Puerperal Sepsis, Measles, Whooping Cough, and Diarrhoea and Enteritis (under 2 years of age) amounted to 87, against 88 in the year 1920, 39 deaths occurring in the Combined Urban Districts, and 48 in the Combined Rural Districts. The mortality rate is 0.40, which is identical with the rate for the year 1920, but is 0.26 per 1,000 of the population below the average rate for the ten years 1911-20. Of the deaths during the year 1921, 28 were from Diphtheria, 27 from Diarrhoea and Enteritis, and 16 from Whooping Cough.

No mortalities are recorded from zymotic diseases in Brackley Borough, Irthlingborough and Raunds Urban Districts, and Brackley, Middleton Cheney and Oxendon Rural Districts.

The mortality rate for the chief *notifiable* zymotic diseases, viz. :—Small-pox, Scarlet Fever, Diphtheria, Enteric Fever and Puerperal Sepsis amounted to 0.19 per 1,000 of the population, as against 0.14 in the year 1920, 0.30 in 1919, 0.44 in 1918, 0.33 in 1917, and 0.40 in 1916. The total number of cases of above-mentioned diseases notified (and including Erysipelas) was 591, or, at the rate of 2.78 cases per 1,000 of the population, as against 2.31 for the year 1920 and 2.38

for the year 1919, which were the lowest rates ever recorded for the County. Of these notified cases, 41 were fatal, against 31 in the year 1920, 28, as previously mentioned, being due to diphtheria.

The following table shows the number of deaths from the general zymotic diseases, and the rate per 1,000 of the population for the whole Administrative County, for the ten years 1912-1921 :—

Area.	General Zymotic Diseases	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Adminis- trative County	No. of Deaths.	132	119	127	234	123	97	139	97	88	87
	Rate per 1,000	0.61	0.55	0.58	1.10	0.60	0.50	0.72	0.46	0.40	0.40

Arranged in the order of their death-rates for zymotic diseases the Urban Districts stand thus :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Brackley Borough ...	0.00	Rushden ...	0.36
Irthlingborough ...	0.00	Kettering ...	0.53
Raunds ...	0.00	Daventry Borough ...	0.56
Desborough ...	0.23	Rothwell ...	0.67
Finedon ...	0.24	Higham Ferrers Boro' ...	0.68
Wellingborough ...	0.33	Oundle ...	0.74

The position of the Rural Districts in respect of their death-rates for zymotic diseases is as follows :—

	<i>Per 1,000 of Population</i>		<i>Per 1,000 of Population</i>
Brackley ...	0.00	Crick ...	0.41
Middleton Cheney ...	0.00	Brixworth ...	0.43
Oxendon ...	0.00	Oundle ...	0.46
Towcester ...	0.10	Thrapston ...	0.58
Hardingstone ...	0.13	Wellingborough ...	0.63
Northampton ...	0.13	Easton-on-the-Hill ...	0.72
Potterspury ...	0.21	Daventry ...	1.09
Kettering ...	0.23	Gretton ...	1.43

SPECIAL ZYMOTIC DISEASES AND MORTALITY.

Small Pox. There was a fortunate absence of any case of small-pox in the County during the year, though notification of contacts were received in several instances from Port Sanitary Authorities in respect of travellers from ship-board where a case or cases of the disease had occurred on voyage. Information as to these was at once sent to the respective District Medical Officers of Health, who forthwith kept them under strict local observation. During the year, small-pox was prevalent in certain areas of the country, and it is matter for congratulation that the disease was not introduced into this County from any one of those foci of infection. From the Vaccination returns, which appear later on in this report, it is clear that any introduction of small-pox to this County would prove a serious menace to the community.

Scarlet Fever.—The total number of cases of Scarlet Fever notified in the Administrative County during the year 1921 amounted to 297, of which 178 were in the Combined Urban Districts and 119 in the Combined Rural Districts. Though somewhat higher than in each of the years 1917-20, the number of cases for the year 1921 was considerably below the average of 455 for the ten years 1911-20. The total Scarlet Fever prevalence was equal to a sickness rate of 0.13 per cent. of the population as against 0.07 per cent, in 1920, and 0.05 per cent. in each of the years 1919 and 1918; in the Combined Urban Districts the rate was 0.18 per cent., and in the Combined Rural Districts 0.10 per cent. of their respective populations. There were three deaths, giving a mortality rate of 1.01 per cent. of the notified cases; no deaths occurred from this disease during the years 1919 and 1920.

No case was notified in Rothwell Urban District, or in the Crick, Gretton, Middleton Cheney, and Oxendon Rural Districts. Kettering Urban District had 102 cases, and eleven other Districts had cases ranging from 8 to 22 in number.

Diphtheria and Membranous Croup.—I am glad to be

able to record that the number of notifications of these diseases during the year 1921 was lower than in any of the immediately preceding ten years, there being 213 cases as against an average of 371 cases for the latter period. The Combined Urban Districts with 95 cases had a sickness rate of 0.97 per 1,000 of the population, and the Combined Rural Districts with 118 cases had a rate of 1.02, while the sickness rate for the whole Administrative County was 1.00. Eight deaths occurred in the Combined Urban Districts and 20 in the Combined Rural Districts. The comparative severity of the cases, as indicated by the mortalities, is shewn by the death-rates of 8.42 per cent. of the cases in the Combined Urban Districts as against 5.73 per cent. in 1920; of 16.94 per cent. in the Combined Rural Districts as against 8.13 per cent., and of 13.14 per cent. in the whole Administrative County as against 6.93 per cent.

Desborough, Finedon, Irthlingborough and Raunds Urban Districts, as well as Easton-on-the-Hill, Gretton, Middleton Cheney, Oxendon and Potterspury Rural Districts escaped visitation by these diseases.

The largest numbers of cases were in Daventry Rural District (50), where the disease was of a malignant type in Everdon, Whilton and Weedon Parishes, Kettering Urban District (40), and Wellingborough Urban District (31).

Enteric Fever.—Nineteen cases were notified during the year 1921, against an average of 14 cases for the five years 1916-20—the period with the lowest record—and as against an average of 46 cases for the five years 1911-15. The cases during 1921 were in the following Districts :—Irthlingborough Urban (1), Kettering Urban (1), Rushden Urban (2), Crick Rural (2), Kettering Rural (1), Northampton Rural (6), and Thrapston Rural (6).

Five deaths occurred, giving a rate of 26.31 per cent. of the cases, as against 8.33 per cent. and 16.66 per cent. in the years 1920 and 1919 respectively; four of the deaths were in the Combined Rural Districts.

Puerperal Fever.—Five cases were notified—the same number as in the year 1920—as against an average of four cases for the years 1916-20. Three were fatal, and two were in the practice of midwives ; the latter are referred to in the report of the Lady Medical Officer (Appendix II.). In addition, there were two deaths recorded by the Registrar-General of un-notified cases. The notified cases were in Kettering Urban District (3), Rothwell Urban District (1), and Towcester Rural District (1), and the deaths of the un-notified cases were in the Oundle and Thrapston Rural Districts.

Erysipelas.—Fifty-seven cases were notified, as against 67 cases for the year 1920, and as against an average of 113 cases for the ten years 1911-20. The cases during the year 1921 were 34 in the Combined Urban Districts and 23 in the Combined Rural Districts. The deaths from this disease, if any, are not now shewn under that name on the list of causes of death issued by the Registrar-General.

Measles.—There was some prevalence of this disease in Rothwell and Wellingborough Urban Districts and in certain parishes in the Brixworth, Daventry, Kettering, Towcester and Wellingborough Rural Districts, and there were also a few cases in Desborough and Finedon Urban Districts. The diminution in prevalence during 1921 from recent years was considerable, and I am pleased to be able to report that only three deaths occurred, as against 24, 26 and 35 deaths respectively for the years 1920, 1919 and 1918. No application was made to me by any District Medical Officer of Health for the services of a nurse to be supplied in accordance with the agreement between the County Council and the Northamptonshire District Nursing Association.

Whooping Cough.—There were prevalences of Whooping Cough in Wellingborough Urban District, and in parishes in Brixworth, Daventry, Kettering, Oxendon, Potterspury and Towcester Rural Districts, and there were also a few cases in

Desborough and Finedon Urban Districts. Sixteen deaths occurred, ten in the Combined Urban Districts and six in the Combined Rural Districts, as against 20 in the year 1920, and as against an average of 24 deaths for the five years 1916-20.

Chicken Pox.—This disease was prevalent for varying periods in Desborough and Kettering Urban Districts and in the parish of Kilsby in Crick Rural District. There were also a few cases in the Finedon and Wellingborough Urban Districts.

Diarrhœa and Enteritis.—(Under two years of age).—Twenty-seven deaths occurred during the year 1921—fifteen in the Combined Urban Districts and twelve in the Combined Rural Districts—as compared with 13 deaths in the year 1920, and an average of 14 deaths for the five years 1916-20. The number of deaths for the year is much less than was to be feared from the climatic conditions which prevailed, and the great scarcity of drinking water experienced throughout almost the whole county.

Influenza.—Prevalences of influenza were reported on their weekly infectious diseases notification cards by the Medical Officers of Health for the Desborough Urban District and the Daventry, Potterspury, Thrapston and Towcester Rural Districts. A few cases were also reported in Oundle Urban District. Forty deaths occurred—one less than in the year 1920—as against an average of 184 deaths for the years 1916-20, of which 22 were in the Combined Urban Districts and 18 in the Combined Rural Districts. The Districts with the largest number of deaths were Kettering Urban 7, Rushden Urban 6, Hardingstone Rural 5, and Wellingborough Rural 4.

Pneumonia.—(Acute Primary and Acute Influenzal).—There was again a welcome reduction in the number of cases notified—128 cases, as against 145 for the year 1920, and as against 313 cases for the ten months of the year 1919. (Com-

pulsory notification of these diseases only became operative on March 1st, 1919). Of the cases for the year 1921, 67 were in the Combined Urban Districts and 61 in the Combined Rural Districts.

The number of deaths from Pneumonia (all forms, inclusive of the above cases) was 124, 54 being in the Combined Urban Districts and 70 in the Combined Rural Districts, as against 111 in the year 1920, and as against an average of 140 for the five years 1916-20.

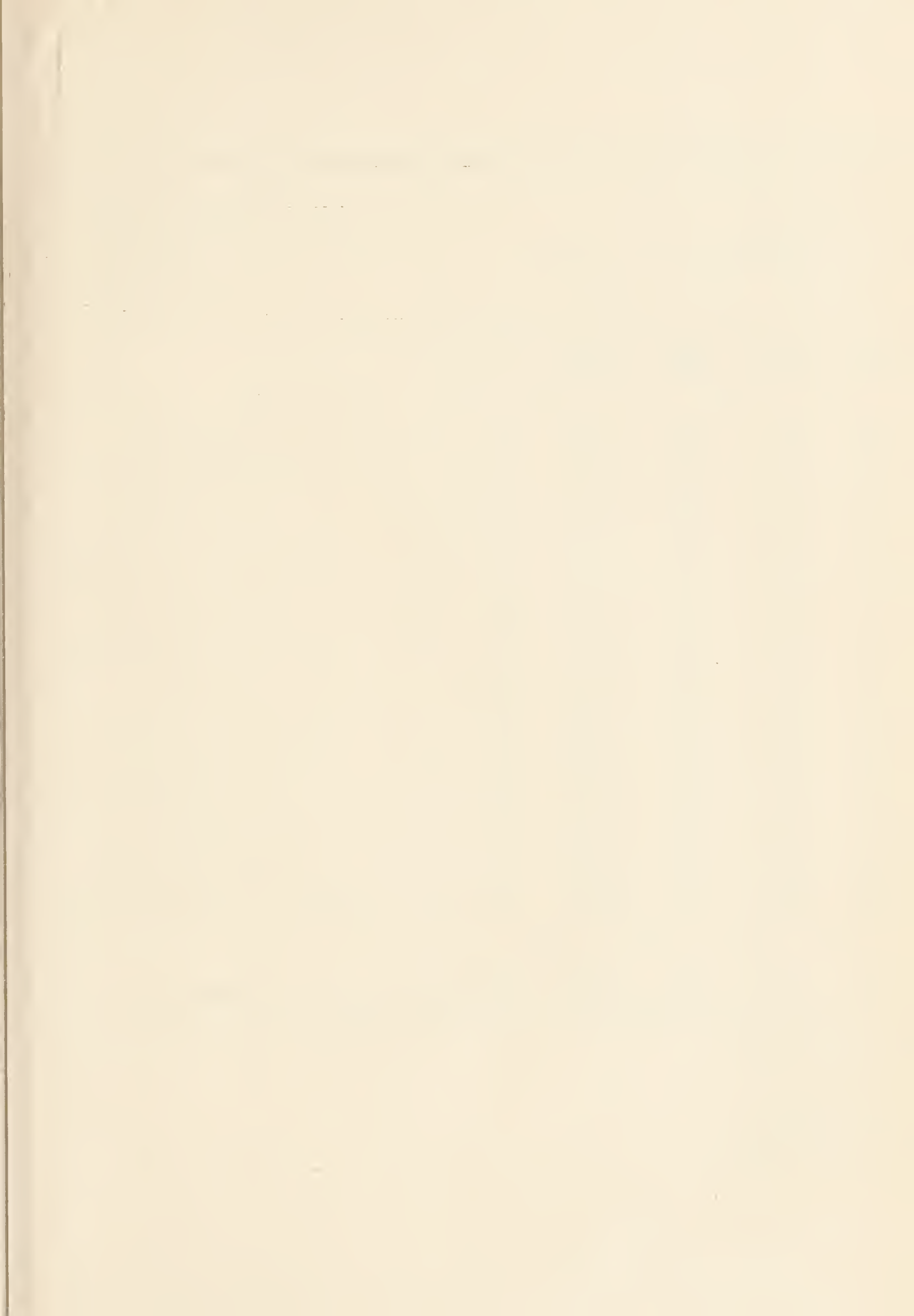
Malaria.—Only two cases were notified—one at Desborough (believed to have been contracted abroad), and one at Finedon,—against 32 cases in the year 1920, and as against 90 cases during the last ten months of 1919.

Dysentery.—No case was reported, as against one case in the year 1920, and two cases during the last ten months of 1919.

Acute Poliomyelitis.—Three cases were notified, two at Kettering, and one in the Thrapston Rural District. One of the former cases proved fatal, and there was also a death of an un-notified case belonging to Daventry Rural District. One case was notified in the year 1920, two cases in 1919, one in 1918, three in 1917, and eight cases in 1916.

Acute Polio-Encephalitis.—As in the previous year, no case was reported during the year 1921.

Acute Encephalitis Lethargica.—Nine cases were notified, two cases each at Kettering and Wellingborough and in Oundle Rural District, and single cases at Irthlingborough, and in Hardingstone and Thrapston Rural Districts. With the exception of one case each at Kettering and Wellingborough, all proved fatal. There was also the death of an un-notified case in Hardingstone Rural District. Two cases were notified in each of the years 1920 and 1919.



ANALYSIS OF VACCINATION OFFICERS' RETURNS, 1893-1920.

UNIONS IN THE COUNTY OF NORTHAMPTON.	PERCENTAGES OF BIRTHS IN RESPECTIVE YEARS.																												UNIONS IN THE COUNTY OF NORTHAMPTON.			
	Certificates of " Successful Vaccination."								Certificates of " Conscientious Objection."						Not finally accounted for.							Total Living Unvaccinated.										
	(Col. 1).								(Col. 2)						(Col. 3)							(Col. 2 + Col. 3).										
	1893-97	1898-1902	1903-1907	1908-1912	1913-1917	1918	1919	1920	1898-1902	1903-1907	1908-1912	1913-1917	1918	1919	1920	1893-97	1898-1902	1903-1907	1908-1912	1913-1917	1918	1919	1920	*	1893-97	1898-1902	1903-1907	1908-1912		1913-1917	1918	1919	1920
BRACKLEY	39.1	51.3	68.9	30.0	23.7	13.8	11.1	19.1	10.7	13.6	47.4	60.4	57.8	69.7	63.1	47.7	30.8	9.2	16.7	11.1	17.6	15.1	10.0	49.3	41.6	22.8	64.1	71.5	75.4	84.8	73.1	BRACKLEY
BRIXWORTH	42.9	50.6	58.6	39.3	28.2	23.3	16.2	11.8	14.4	20.9	51.6	62.5	68.2	58.7	70.2	44.2	28.0	12.9	5.1	3.7	4.7	20.0	11.8	49.2	42.5	33.9	56.7	66.2	72.9	78.7	85.9	BRIXWORTH
DAVENTRY	51.1	56.9	64.3	35.6	23.6	22.6	40.2	18.4	15.0	18.4	48.5	61.8	64.5	51.5	71.1	36.3	19.8	10.5	9.8	8.8	8.9	5.2	3.3	39.4	34.8	28.9	58.4	70.7	73.4	56.7	77.7	DAVENTRY
HARDINGSTONE	38.5	48.9	47.2	23.5	15.3	14.3	11.2	10.0	34.4	41.0	68.7	76.8	73.8	83.9	85.0	42.7	8.2	4.3	2.4	2.3	4.1	1.0	2.5	51.1	42.7	45.3	71.0	79.2	77.9	84.9	87.5	HARDINGSTONE
KETTERING	1.6	17.3	28.5	13.2	6.8	5.7	7.7	4.4	21.4	51.9	76.9	83.8	81.0	82.5	89.0	84.2	47.7	10.2	2.6	2.7	7.3	3.4	1.5	84.2	69.2	62.1	79.6	86.5	88.3	85.9	90.5	KETTERING
NORTHAMPTON	3.7	16.6	24.8	17.2	11.1	11.3	9.9	7.8	31.4	56.4	70.5	77.5	76.6	76.9	83.3	74.2	39.8	10.1	5.5	5.2	6.4	6.7	4.1	83.3	71.2	66.5	76.0	82.8	83.0	83.6	87.4	NORTHAMPTON
OUNDLE	82.8	85.1	81.4	54.4	32.1	23.6	20.6	25.4	3.3	5.2	35.0	54.9	49.9	60.0	65.0	9.0	4.8	6.5	5.0	8.2	18.6	13.7	4.7	9.2	8.1	11.7	40.0	63.2	68.5	73.7	69.7	OUNDLE
†PETERBOROUGH	84.0	76.3	77.6	52.4	37.6	33.1	31.7	30.5	2.1	4.4	35.1	52.2	53.7	57.3	61.1	7.6	11.1	10.2	6.3	4.7	7.3	4.9	3.3	7.6	13.2	14.6	41.4	57.0	61.0	62.2	61.7	†PETERBOROUGH
POTTERS PURY	58.9	57.5	60.4	28.8	20.0	16.4	15.6	12.9	27.4	29.7	64.6	74.6	71.8	79.7	78.5	29.2	6.1	3.4	1.4	1.2	6.2	1.5	2.2	33.0	33.5	33.2	66.1	75.9	81.0	81.2	80.7	POTTERS PURY
THRAPS TON	10.9	38.7	47.2	18.6	15.3	16.1	12.7	4.0	43.8	40.9	70.5	76.7	75.7	83.7	93.1	72.0	9.9	4.9	7.1	1.6	3.4	1.3	0.8	79.7	53.7	45.8	77.8	78.4	79.1	85.0	94.2	THRAPS TON
TOWCESTER	38.9	47.9	49.6	25.0	20.1	21.5	20.9	11.3	27.4	29.6	65.8	70.5	73.3	62.0	82.3	43.9	16.2	12.5	3.6	2.9	2.1	12.4	2.3	50.7	43.6	42.1	69.5	73.4	75.4	74.4	84.6	TOWCESTER
WELLINGBOROUGH	1.1	16.2	40.5	19.5	8.8	8.1	7.3	8.6	22.4	45.5	71.0	82.0	82.4	84.5	83.3	82.2	50.8	5.6	2.5	3.6	5.5	2.0	2.1	86.4	73.2	51.2	73.5	85.6	87.9	86.5	85.7	WELLINGBOROUGH
MEANS	25.7	35.4	46.1	26.3	17.7	16.6	15.8	13.1	21.6	37.0	62.3	72.0	71.2	73.1	78.6	58.4	32.2	8.7	4.9	4.4	7.0	5.5	3.5	62.8	53.9	45.7	67.3	76.5	78.2	78.6	82.1	MEANS.

* In the returns for the years 1893—97 the number of Certificates of Conscientious Objection received in respect of the children born in 1897 has not been included in the Percentages " Not finally accounted for," but allowance has been made for these in the " Total Living Unvaccinated."

† The Soke of Peterborough is a County in itself, and I am therefore much indebted to the courtesy of the Clerk of the Peterborough Union for furnishing me with information for the purposes of this table.

N.B.—The Rural Districts of Crick, Oxendon, Gretton, Easton-on-the-Hill, and Middleton Cheney are included in Unions in the Counties of Warwick, Leicester, Rutland, Lincoln, and Oxford, and do not therefore enter into the above Analysis; on the other hand the Unions of Brackley, Oundle and Thrapston, Potterspury, and Wellingborough, include a few parishes in Bucks. and Oxon., Hunts., Bucks., and Beds. respectively. The Union of Northampton includes the Borough of Northampton, except the parish of Far Cotton, which is included in the Union of Hardingstone.

Cerebro-Spinal Fever.—No case was notified during the year 1921, as against eight cases in 1920, and six in the year 1919.

Ophthalmia Neonatorum.—Fifteen cases were notified—eight being in the practices of Midwives, all of which made complete recovery—against 27 cases in the year 1920, and seventeen cases in the year 1919. Further reference to this disease is made by the Lady Medical Officer in her report on the Inspection of Midwives (Appendix II.)

Mumps.—Prevalences for varying periods were reported from Finedon and Wellingborough and in certain parishes in the Brixworth, Crick and Oundle Rural Districts; there were also a few cases in Oundle Urban District.

VACCINATION.

In spite of the very considerable risks that existed for the spread of small-pox from other parts of the country into this county during the year 1920, such peril hardly served to make any but very slight alteration in the local indifference to the protection afforded the individual by vaccination. The mean rate of the total living unvaccinated for the year 1920 amounted to 82·1 per cent. of the births of that year, which is the latest for which returns are available; this is higher than any average rate commencing with the quinquennium 1893-97. In respect of the births for that period, very slight improvements in the percentages for certificates of successful vaccination were shown over the two preceding years only in the Brackley, Oundle and Wellingborough Unions, and the total rate for certificates of conscientious objection rose to the high figure of 78·6 per cent. These are very regrettable results, and, short of the occurrence of small-pox in any particular Union of the county, there does not appear to be much probability of any other stimulus operating towards improved protective conditions. Although the figures as to vaccination in 1921 of those born during 1920 are not

completely available, I am not sanguine that these will show ultimately any marked increase in the number of successful primary vaccinations ; but I have some evidence that the peril of extension of small-pox from areas in the northern parts of the country during the past year did lead to an increased amount of re-vaccination among private patients of medical practitioners.

VENEREAL DISEASES.

The continuance of the Treatment Centre at the Northampton General Hospital has proved to be of the best service in respect of the occurrence of cases of Venereal Diseases in the County. The original agreement for the establishment of the Centre was between the Hospital and the Councils of the County and Borough of Northampton ; this agreement was extended in the year 1920 to include, as a party thereto, the Buckinghamshire County Council. The new agreement, thus entered into, for the provision of facilities for the diagnosis and treatment of cases from the areas of the three Councils was made for a period only terminable on the 31st March, 1921, and at that date arrangements had not been concluded for its renewal pending the receipt of the suggestions of the Ministry of Health with regard to improvements at the Centre. In the meantime, however, the work of the Clinic was carried on as before, and negotiations in respect of the revised terms for the provision of treatment proceeded in a satisfactory manner between the contracting parties and the Ministry of Health. The improvements contemplated related chiefly to more specialised provision for in-patients at the Hospital ; but, during the period under review, the question of the Exchequer undertaking liability for further expenditure beyond present commitments on Public Health services came under consideration, and a temporary suspension of operations became necessary. Some modification of the terms for the retention of four beds in the Hospital for venereal patients was arrived at, which is expected to result in some diminution of annual cost under the agreement.

The total number of new cases from the County attending the Clinic for the year ending the 31st December, 1921, was 118, as against 69, 214, and 183, in the similarly ending years 1918, 1919, and 1920 respectively. These figures are sufficient to show the need for the Treatment Centre, and the necessity for its maintenance. Measures are taken, as thought desirable from time to time, to inform the public by means of advertisement in the local press of the days and times when the Clinic is open, and, during the year, as part of the Council's propaganda scheme relative to venereal diseases, addresses were given in two rural parishes to Women's Institutes at their own request. A few patients presenting themselves for treatment at the Clinic belonged to other counties than those which are parties to the agreement with the Northampton General Hospital. The following return relates to persons residing in the County of Northampton who attended for treatment at the Centre during the two years 1920 and 1921 :—

	1920		1921	
	Males	Females	Males	Females
1. No. dealt with at or in connection with the Out-patient Clinic for the first time	125	58	82	36
2. Total attendances of all persons at the Out-patient Clinic	1,372	511	1,271	755
3. No. discharged after completion of treatment ...	5	4	4	3 (1 died)
4. No. who ceased to attend without completing treatment	18	22	71	35
5. No. of In-Patients ...	7	10	6	12
6. No. of persons treated with Salvarsan substitutes ...	91	65	151	93

It is unfortunate that so many patients discharge themselves when self-convinced of cure, instead of submitting to a final test by the Medical Officers of the Centre to enable them to certify the fact of immunity from disease. In only one

instance during the year did a self-discharged patient return to the Centre for resumption of treatment.

It should be added that there are five medical practitioners in the County, other than the two Medical Officers of the Clinic, who are qualified to receive free supplies of salvarsan substitutes, and that, during the year, supplies were sent to them in respect of twelve cases.

Now that the pathological examinations of specimens from venereal patients are carried out in the highly equipped laboratory of the hospital by the whole-time pathologist—Dr. Shaw—it is possible to give a more elaborate return showing the extent to which this valuable adjunct to diagnosis and treatment has been brought into service. The following table differentiates between the examinations made on the application of the Medical Officers of the Treatment Centre and of private medical practitioners in the County, and will form the basis for useful comparisons in future years:—

Pathological examinations made during the year ending 31st December, 1921:—

Nature of Test.				No. of Tests.	
For Detection of Spirochetes	{	For Treatment Centre...	26		
		For Practitioners ...	1		
For Detection of Gonococci	{	For Treatment Centre...	74		
		For Practitioners ...	7		
For Wassermann reaction	{	For Treatment Centre...	226		
		For Practitioners) ...	102		
Other Examinations ...	{	For Treatment Centre ...	1		
		(Section of Specimen re-			
		moved at operation)			
		For Practitioners ...	—		
Total ... ..				...	437

ISOLATION HOSPITALS AND DISINFECTION.

There is no change to be reported in the main features with regard to hospital accommodation for infectious diseases

cases, which existed in the previous year. Owing to prevailing financial conditions and high costs of building operations, it is not likely that extensions of isolation hospital accommodation will be undertaken voluntarily at the present time, save under the pressure of particular local necessities. As these adverse circumstances, however, gradually undergo amelioration, it will become desirable to press for consideration of the needs of certain areas in the County for the provision of such accommodation. In this connection, the populous areas around Wellingborough appear to be those in respect of which either separate or combined provision is most called for, and it is desirable that preliminary consideration should be given to this subject at no distant date.

During the year the isolation hospitals which are in existence in the County have been put to good use. The four diphtheria and enteric fever cases in the Crick Rural District were isolated in the hospital jointly owned by it with the adjoining Rugby Rural District in Warwickshire, while the hospital belonging to the Daventry Rural District afforded isolation to 47 cases of diphtheria and 23 of scarlet fever from that district, as well as to three cases of the latter disease from the Weedon Barracks and three cases each of diphtheria and scarlet fever from the Borough of Daventry. There was likewise an increased number of cases isolated in the Kettering Joint Hospital, amounting in all to 120 cases, of which 86 were scarlet fever, while 49 cases—19 scarlet fever and 30 diphtheria—from the Wellingborough Urban District were isolated in that Council's Hospital in addition to seven others from the Rural District of that name.

SCHOOLS.

I have mentioned briefly elsewhere, in my report on the Medical Inspection of Children in Schools, the extent to which elementary education was interrupted during the year by the prevalence of infectious disease among the pupils. The diseases which were the direct causes of school-closure were, in order of numerical agency, whooping-cough, measles,

influenza, diphtheria, scarlet fever, mumps and chicken-pox. The number of schools closed was 46, as against 88 in the year 1920, 66 in 1919, 128 in 1918, and 66 in 1917. The months in which the largest number of closures took place were February and April, when the schools affected were 9 and 7 respectively. It will be seen from the foregoing that the interruption of school work during the year, in consequence of the prevalence of infectious disease, was much less than for several years past.

From the reports of the District Medical Officers of Health, it is evident that watchfulness was generally exercised throughout the County over the sanitary condition of the elementary schools in the respective areas under their supervision.

WATER SUPPLY.

It is a matter for congratulation that, in spite of the great risk involved through the prolonged drought of the year—lasting from early spring into the late autumn—there is so little evidence in this County of the incidence of water-borne disease, and especially so in the rural districts where so much of the water supply is derived from shallow wells. The serious effects of such a drought may prove, however, to be more evident in the future than during the actual period while it prevailed. The pollutions of the soil surrounding shallow wells are liable to become more concentrated in dry than in normal seasons, and more dangerous, therefore, to the purity of the wells when these are replenished with water from heavy rains passing merely through superficial layers of soil.

Although there was apparently an absence of special need in the County during the year for treatment of water for drinking purposes on any extensive scale, it should be borne in mind that prospective circumstances may make this in certain localities not only desirable but imperatively necessary. It is of importance, therefore, that the Circular 241 of the Ministry of Health relating to this subject, under date the 15th September, 1921, should receive consideration and

attention at the hands of the Local Authorities. In the words of this circular, "the best methods of dealing promptly with drinking water which has become polluted, or which is suspected of spreading disease are (1) by boiling, or (2) by chlorination"; but these are conditional on there being no available alternative source of pure water in the immediate locality. The chief indication that drinking water is of doubtful purity is to be found in the outbreak, whether mild or severe, of disease of a diarrhoeal nature, and measures should be taken promptly on any such occurrence.

In regard to works in connection with public water supplies, which were the subject of inquiry during the year by the Ministry of Health, it is reported that the additional pumping plant at Oundle has been installed and the new pumps are working very satisfactorily, and it is understood that consideration is still being given to the question of providing new pumping plant for the waterworks of the Kettering Urban District. In respect of the parish of Corby in the Kettering Rural District, much more than sanction for experimental works has been granted by the Ministry of Health, since the whole scheme for supplying the parish with water at an estimated cost of £9,450 has been granted, and contracts were due for consideration early in the current year. It is greatly to be hoped that the long out-standing want in respect of a satisfactory water supply for Corby will not be now unduly delayed in fulfilment.

It is reported that the sinking of the new well in connection with the public water supply at Raunds was completed in December, and that the yield of water at a rest level of 9 ft. has been practically doubled. In the surrounding Thrapston Rural District, "there was a great shortage of water in many of the villages, especially among those situated on higher clay land." The Medical Officer of Health has brought up again the question of a public supply for the parish of Thrapston, and it is much to be regretted that no definite progress can as yet be reported in the matter. In the Wellingborough Rural District it is recommended that certain villages, at present dependent on local wells, should

be supplied from either the Higham Ferrers and Rushden or Wellingborough Urban waterworks.

DWELLING HOUSES AND OVERCROWDING.

The attached Tables have been prepared on the same lines as for the year 1920, to show the extent to which progress has been achieved in the provision of new dwelling-houses since the termination of the war. They have been compiled from the information supplied me in returns forwarded by the Clerks to the Local Authorities within the Administrative County, and the figures have reference to Housing Schemes initiated by the Local Authorities with the approval of the Ministry of Health as well as through the efforts of private enterprise. The completion of the official housing schemes has now been checked owing to the financial situation of the country, and it is some satisfaction to find that the schemes in this County had materialised to an important extent before their compulsory abandonment. The unsatisfactory feature, however, which must be set off against the advantage of increased new housing accommodation, is the excessive high cost of such provision under most of the schemes. The country generally must look forward in the immediate future to its further housing requirements being met by private enterprise, and it is obvious that the extent to which this may be accomplished will be dependent chiefly on such conditions of cost as will make economic rents practicable.

From the returns made to me, it appears that by the end of the year, 809 houses had been completed and 579 were in course of erection, or a total of 1,388, under the Housing Schemes of Local Authorities, and that a total of 115 houses were completed or in hand by private enterprise. An immediate total addition of just over 1,500 new dwellings affords some practical relief in the mitigation of the advanced overcrowding in some areas, brought about by the cessation of general building operations during the war, but it cannot be said to meet the full housing requirements in every area of the County.

During the year, Representations or Closing Orders were

TABLE SHEWING DISTRICT RETURNS OF HOUSING PROGRESS FOR THE YEAR 1921.									
(Completed houses inclusive of those finished in 1920.)									
DISTRICTS.				By Local Authority under Housing Scheme.			By Private Enterprise.		
				Com-pleted Houses.	Houses in course of erection.	Pros-pective Houses.	Com-pleted Houses.	Houses in course of erection.	Pros-pective Houses.
URBAN.									
Brackley	Borough	...	...	12	...	...	2	4	...
Daventry	"	...	...	17	...	*	1	...	...
Higham Ferrers	"	...	...	20	...	...	...	...	...
Desborough	...	...	...	24	...	*4	2	...	...
Finedon	...	...	...	15	5	...	...	...	...
Irthlingborough	...	...	...	22	29	...	...	...	...
Kettering	...	...	...	159	77	150	8	10	4
Oundle	...	...	...	4	6	...	...	...	...
Raunds	...	...	...	6	4	...	...	...	...
Rothwell	...	...	...	14	...	*...	1	...	...
Rushden	...	...	...	70	12	...	6	2	...
Wellingborough	...	...	...	32	...	20	2	4	...
RURAL.									
Brackley	...	...	...	40	52	...	2	1	...
Brixworth	...	...	...	48	14	...	*10	†9	...
Crick	...	...	...	16	4	...	1	...	...
Daventry	...	...	...	16	96	...	...	*2	...
Easton-on-the-Hill	...	...	...	22	22	...	...	...	...
Gretton	...	...	...	...	8	8	...	...	...
Hardingstone	...	...	...	24	6	...	*7	...	2
Kettering	...	...	...	22	116	...	6	2	1
Middleton Cheney	...	...	...	14	6	...	...	...	...
Northampton	...	...	...	94	38	...	13	2	...
Oundle	...	...	...	...	...	...	2	1	...
Oxendon	...	...	...	44	6	...	...	...	...
Potterspury	...	...	...	8	...	...	...	2	1
Thrapston	...	...	...	26	38	...	3	...	...
Towcester	...	...	...	32	26	...	4	2	...
Wellingborough	...	...	...	8	14	...	4	...	2
TOTALS	...	...	...	809	579	182	74	41	10

HOUSING, TOWN PLANNING, &c., ACT, 1909.

Houses in Rural Districts notified under Section 69, during the Year 1921.

DISTRICTS.				No. of Houses	Date of			Action taken and condition up till end of 1921.
					Representation	Closing Order.	Demolition Order.	
BRACKLEY	...	...	...	Nil				
BRIXWORTH.								
Brixworth	...	...	...	{	1	16 March	...	Rendered fit by Owner.
Holcot	...	...	...		3	6 January	...	1 fallen down, 1 repaired, 1 in abeyance.
Hollowell	...	...	...		4	6 "	...	1 rendered fit, 1 closed, 2 tenants moving into Council new houses.
Moulton	...	...	...		2	16 March	...	Rendered fit.
Walgrave	...	...	...	{	1	6 January	...	Under repair.
CRICK	...	...	...	Nil				
DAVENTRY	...	...	...		
Flore	...	...	...	1	11 January	15 January	...	Now used as Store-place.
EASTON-ON-THE-HILL								
Duddington	...	...	...	10	27 May	27 May	...	
Easton	...	...	...	17	27 "	27 "	...	
Easton	...	...	...	9	29 July	29 July	...	
Collyweston	...	...	...	13	29 "	29 "	...	
GRETTON	...	...	...	Nil				
HARDINGSTONE	...	...	...	Nil				
KETTERING	...	...	...	Nil				
MIDDLETON CHENEY								
Middleton Cheney	...	...	...	6	1 September	1 October	...	
NORTHAMPTON								
Duston	...	...	...	1	...	12 January	...	Repaired.
Kislingbury	...	...	...	2	...	12 "	...	Unoccupied.
OUNDLE								
Nassington	...	...	...	2	13 January	2 September	...	{ The Council has agreed to purchase the houses with a view to putting them into a proper state of repair.
Nassington	...	...	...	1	13 "	20 October	...	
OXENDON								
Clipston	...	...	...	*2	4 January	...	...	Under repair.
East Farndon	...	...	...	1	9 December	...	...
East Farndon	...	...	...	*1	19 October	...	...
POTTERSPURY								
Alderton	...	...	...	1	...	...	...	{ In respect of Closing Orders made in 1920, one house at Paulerspury has been repaired, and one house each at Alderton and Yardley Gobion demolished in 1921.
Paulerspury	...	...	...	1	...	...	...
Yardley Gobion	...	...	...	1	...	...	...
THRAPSTON								
Ringstead	...	...	...	2	...	29 November	...	
Woodford	...	...	...	1	15 November	31 December	...	
TOWCESTER								
Silverstone	...	...	...	1	...	...	...	One of the houses in respect of which Closing Order was made in 1920 was rebuilt 1921.
WELLINGBOROUGH	...	...	...	Nil				

* Closing Orders made January 11th, 1922.

made in regard to 80 unsuitable or uninhabitable houses in eight of the sixteen rural districts of the Administrative County. No demolition order was made in respect of any of these.

SEWERAGE AND SEWAGE DISPOSAL (POLLUTION OF STREAMS.)

In continuation of the references thereto in my last Annual Report, I have to say now that considerable progress has been made in respect of works of improvement on the irrigation farms at Burton Latimer and Finedon. In both cases there was essential need for more efficient tank treatment of the sewage before this was passed on to the land. In regard to the former an inquiry was held by an Inspector of the Ministry of Health in September, 1920, as to a loan for the additional works required amounting to £3,300 ; as a result of this, it was found necessary for certain amendments of the scheme to be made involving an additional expenditure of £500. As so amended, the scheme was re-submitted to the Ministry and its final approval for the raising of a loan of £3,800 in respect of the work was received towards the end of the first half of the year 1921. By the end of September following, a tender for the carrying out of the scheme had been accepted, and the work was actually in hand before the end of the year. It is reported that the drainage schemes for the villages of Moreton Pinkney, Eydon and Croughton in the Brackley Rural District, to which reference was made in my last annual report, are now complete and working satisfactorily ; but it appears that financial and labour difficulties have prevented the larger scheme for Kings Sutton being entered on for the present. Nor has any progress been made in regard to the scheme for sewerage at Long Buckby in the Daventry Rural District. In regard to these two latter places, it is important that progress should be made in regard to sewage disposal during the current year, and I am glad to note that steps have been taken to deal with the like requirement at Byfield in the last named Rural District. I regret to note that no schemes for dealing with sewage at Gretton or other parishes

in the Gretton Rural District have been prepared during the year, and hope that this matter will receive attention at an early date. In the Oxendon Rural District it is reported that new septic tanks have been constructed at Braybrooke and East Farndon, and in the Wellingborough Rural District that the improvements necessary at the sewage outfall at Bozeat have been satisfactorily carried out, as well as other improvements on the Isham and Earls Barton Sewage farms.

DAIRY CATTLE.

I am glad to be able to make note of the fact that in several of the reports of the District Medical Officers of Health special attention has been given to the conditions under which dairy cattle are kept, both where the veterinary inspection of such cattle has been provided for by the District Council and where it has not. In my last annual report I referred particularly to the great advantage the public would derive from the local veterinary inspection of dairy cattle, and I hope that this may be made compulsory by statute at no very distant date. For a good many years now the systematic veterinary examination of dairy cattle and cowsheds has been provided for in the Urban and Rural Districts of Kettering and the adjacent Urban Districts of Desborough and Rothwell under a Joint Committee with most excellent results, and I am glad to say that this example of regular inspection of the condition of dairy cows has been followed in some other important Districts in the County. But the fact remains that such inspection has not been universally established throughout the County, and emphasis as to the need for it is supplied in the ensuing selected abstracts. In his report to the Joint Committee referred to above, Mr. Trevor Spencer, the Inspector, records as follows :—

“ The sanitary condition of the cowsheds, in the period
 “ covered by the report, was unsatisfactory or bad in 13·50
 “ cases per cent. In the great majority of these cases the
 “ unsatisfactory conditions were due to a total disregard
 “ of the elementary principles of cleanliness, periodical

“flushing of the floors having been neglected in not less than thirty cases, in most of which the cows udders were also dirty.” It is pleasing to note that he is able to add that “in all instances in which grounds for complaint were found to exist, improvement was noticeable at the subsequent inspection with regard to the health of the cows and the condition of their udders; the results of the inspections are, in the main, highly satisfactory as regards the absence of clinical evidence of disease,” and also that “only 12 cases were found in which the udder was in a condition calculated to render the milk harmful to persons consuming it in an uncooked state.”

In the Raunds Urban District, the Veterinary Inspector found one cow with an abnormal udder, and the animal was not thereafter milked; in the first, third and fourth quarters of the year, 1, 3 and 1 cows were found with induration of one quarter (probably Tuberculous origin) in the Rushden Urban District, and in the second quarter of the year one cow with temporary acute Mastitis. So also, in the Irthlingborough Urban District, three cases of purulent and one of benign mastitis were found, and the milk from the former cases was stopped from being used for human food by the Veterinary Inspector.

These discoveries of dairy cows, in conditions rendering their milk likely to be harmful to the consumers in an uncooked state, furnish good ground for the contention that there should be regular veterinary inspection of them throughout the County.

With respect to the question of care for cleanliness, although systematic efforts are apparent in most of the districts to keep the walls and flooring of cowsheds in a satisfactory state, there is no great evidence of like consideration on the part of owners for the cows themselves. Thus, in one of the reports, while referring to the condition of the cowsheds as being fairly good, the Medical Officer of Health continues, “The same cannot be said for the cows. Their hindquarters in every case were crusted with filth, and generally speaking I was not

“impressed with the efforts of the owners to keep them “clean,” and in another it is stated that “The cow’s flanks “and hindquarters are often very dirty.” It is clear that when the hindquarters of the cows are dirty, there is a great liability of transmission of filth to the milk itself through the agency of the milkers, and this is a danger that calls for particular care on the part of owners and their employees. It is most desirable that special note should be always made during inspections as to cleanliness of dairy cattle, and that the risk of milk-contamination should be reduced by all available means.

FOOD INSPECTION AND ADULTERATION.

Mention is made in certain of the Reports of the District Medical Officers of Health, or in the Reports of the Sanitary Inspectors attached thereto, as to the supervision of food exposed or intended for sale for human consumption, and as to the quantities condemned on inspection or voluntarily yielded by vendors for destruction. There do not appear to have been any cases calling for prosecution of vendors, and the quantities condemned and destroyed during the year were in the most populous areas less than for the year preceding. The facts so reported may be seen from the following tabulation :—

DAVENTRY BOROUGH.—Surrendered and destroyed :—2 pigs (280 lbs.), 2 cows’ heads (30 lbs.), 1 bullock’s liver (12 lbs.), 700 herrings (160 lbs.).

IRTHLINGBOROUGH URBAN.—77 tins of fruit, tomatoes, corned beef, salmon, etc., No fresh meat.

KETTERING URBAN.—4 tons, 11 cwts. 2 qrs. 14 lbs. of food. Meat :—4 carcasses of home killed beef (3 tuberculous), 14 of pork (4 tuberculous), 5 of home killed mutton, 4 of imported mutton, and other items included livers, pigs’ heads and portions of carcasses, together with 25 tins of corned beef. Other foods :—10 cwts. 1 qr. 10 lbs. of fish, 29 tins of tomatoes. 19 of condensed milk, 5 of salmon, 45 of fruit, 2 of crab, 1 of rabbit,

and 8 cases of chocolate weighing 9 cwts. There were no prosecutions, but several cautions were given.

RUSHDEN URBAN.—Carcases or parts of carcases and organs, condemned for tuberculosis, 12 cwts. 1 qr. 24 lbs., and 4 cwts. 2 qrs. 21½ lbs. respectively; for other diseases—3 cwts. 26½ lbs., and 2 cwts. 27 lbs. respectively. Canned foods, 1 cwt. 1 qr. 2½ lbs., and fruit and vegetables, 24 cwts. 3 qrs. 4 lbs., making a total in all of 2 tons, 8 cwts. 2 qrs. and 21½ lbs.

WELLINGBOROUGH URBAN.—Beef, 5 cwts. 14 lbs., Pork, 11 cwts. 10 lbs.; Fish, 5 cwts. 1 qr.; Tinned Fruit 2 qrs. 5 lbs.; Corned beef, 2 qrs. 7 lbs.; making a total of 1 ton, 2 cwts. 2 qrs. 8 lbs.

DAVENTRY RURAL.—980 lbs. of unfit meat, and 10 cases of unsound tins of condensed milk.

HARDINGSTONE RURAL.—66 lbs. of pork were condemned and destroyed.

TOWCESTER RURAL.—33 tins of preserved food were surrendered.

WELLINGBOROUGH RURAL.—Carcase of pig (165 lbs.), with tubercular disease; 6 forequarters of beef unfit for food, weighing 9 cwts. 1 qr. 11 lbs.

SALE OF FOOD AND DRUGS ACTS, 1875 TO 1907.

The following is the Annual Report of the Public Analyst appointed for the County of Northampton upon the articles analysed by him under the above Acts during the year ended 31st December, 1921.

During the year 1921, 352 samples as shown in the following list, were submitted to me for analysis by the County Inspectors :—

Milk	...	...	...	...	...	...	263
Separated Milk	...	...	...	...	...	...	17
Skimmed Milk	...	...	...	...	...	...	13
Butter	...	...	...	...	...	...	8
Lard	...	...	...	...	...	...	5

Cream	...	...	...	...	...	...	1
Margarine	...	...	...	...	...	...	2
Sausages	...	...	...	...	...	...	2
Potted Meats	...	...	...	...	...	...	2
Flours	...	...	...	...	...	...	8
Custard Powder	...	...	...	...	...	...	1
Egg Substitute	...	...	...	...	...	...	1
Baking Powder	...	...	...	...	...	...	4
Bread and Butter	...	...	...	...	...	...	1
Pepper	...	...	...	...	...	...	3
Jam	...	...	...	...	...	...	13
Lime Juice Cordials	...	...	...	...	...	...	2
Lemon Squash	...	...	...	...	...	...	2
Chilli Vinegar	...	...	...	...	...	...	1
Malt Vinegar	...	...	...	...	...	...	2
Ground Ginger	...	...	...	...	...	...	1

352

Of the 263 samples of Milk, 30 were unsatisfactory, 24 being deficient in fat, 5 containing added water, and one containing Boracic Preservative equal to 35 grains Boric Acid to the gallon of Milk.

This is the first occasion for a long time on which preservatives have been present in samples of the milk sold in the County.

The proportion of adulterated samples was considerably less than in the previous year, the figure being 11·4 per cent.

Two of the samples of Butter contained Boracic Preservatives but not in excessive quantity. Four of the samples were very high in water and contained over 15 per cent., the maximum permissible being 16 per cent.

The Margarines also contained Boracic Preservative.

One of the samples of Lard was not a thoroughly satisfactory one. It contained traces of water and tissue and was slightly discoloured. It was not a well rendered sample.

One of the samples of Potted Meat contained a little Boracic Preservative, but was free from admixture of starchy fillings. The Sausages were free from preservatives, but contained an admixture of bread.

The sample of Cream was free from preservatives and contained over 26 per cent. of fat.

In the sample of Bread and Butter, the Butter was genuine.

Of the 13 samples of Jam, 3 contained traces of Salicylic Acid.

Salicylic Acid was found to be present to the extent of less than .05 per cent. in 3 of the samples of Lime Juice Cordials and Lemon Squash.

The "so-called" Custard Powder was coloured Maize Starch.

The Baking Powders, both tartar and acid phosphate powders, were all free from arsenical contamination.

(Signed) E. W. VOELCKER.

The action which was taken during the year in respect of samples indicated as unsatisfactory have been summarised conveniently, as follows, by Mr. Caulton, the Chief Inspector :

ARTICLE.	CERTIFIED AS :			ACTION TAKEN, WITH RESULTS.	
Milk ...	12 p.c. added water ...	...	...	Proceedings—Penalty £2.	
Milk* ...	11 p.c. added water	...	...	Proceedings—Case dismissed.	
Milk ...	10 p.c. added water	...	...	Proceedings—Penalty £1.	
Milk ...	8 p.c. added water ...	...	...	Proceedings—Penalty £3.	
Milk* ...	5 p.c. added water ...	...	...
Milk ...	62 p.c. deficient in fat	...	...	Proceedings—Case dismissed on payment of costs, 4/11	
Milk	{	38 p.c. deficient in fat	...	This sample was taken before the strippings were extracted.	
		37 p.c. deficient in fat	...	The 3rd portion of this sample exploded.	
		28 p.c. deficient in fat	...	Deficiency attributed to faulty milking.	
		18.6 p.c. } deficient in fat	{	On hearing the result of analyses the vendor obtained his supplies from another source.	
	18 p.c.				
	{	18	{	p.c. deficient in fat ...	Deficiency attributed to improper feeding
		17			
		16			
		15			
		14			
		14			
		13.7			
		13			
		10			
		10			
		10			
	7				
7					
6.7					
6					
6					
5					
5					
Milk ...	Containing boracic preservative			A severe caution was given in this case.	

In these cases enquiries were made and having regard to the decisions of the High Court in similar cases the explanations of the vendors were accepted. Warnings, however, were given and in nearly every case further samples were taken. In those cases where the deficiencies were attributed to faulty milking, marked improvements were shown. Gradual increases in ... were noted in other cases.

* }
† } These samples were from the same vendors.
† }
† }

Cowkeepers, dairymen and vendors of milk are urged to submit informal samples of milk from time to time to the Central Weights and Measures Office for the purpose of ascertaining the percentages of fat. For each test a fee of sixpence is charged.

F. CAULTON, Chief Inspector.

One sample of Cream was examined for the presence of a preservative, under the Public Health (Milk and Cream) Regulations, 1912 and 1917, and was found free from such. In the case where boric acid was found in the sample of milk, there was sufficient evidence that this milk in bulk had been intended only for the vendor's pigs, and that a portion had been issued in error by someone other than himself. It was considered sufficient to severely caution the vendor against the possibility of a repetition of such an occurrence, for which a temporary lapse of supervision could not be advanced in the future as a reasonable excuse.

CHARLES E. PAGET,

County Medical Officer of Health.

County Hall, Northampton.

June, 1922.

LIST OF MEDICAL OFFICERS OF HEALTH AT COMMENCEMENT OF 1922.

DISTRICT.	MEDICAL OFFICER OF HEALTH.	RESIDENCE.
URBAN :—		
Brackley (Borough)	G. N. Stathers, M.R.C.S., D.P.H.	Brackley
Daventry (Borough)	A. R. Darley, M.D.	... West Haddon,
Higham Ferrers (Borough)	... F. D. Crew, M.B.	Rugby. ... Higham Ferrers
Desborough	... H. Gibbons, M.D., J.P.	... Desborough
Finedon	... A. Strachan, M.B.	... Finedon
Irthlingborough	... C. N. Elliott, M.B., J.P.	... Oundle
Kettering	... J. Allison, M.D., D.P.H.	... Kettering
Oundle	... B. R. Turner, M.D.	... Oundle
Raunds	... A. McInnes, M.B.	... Raunds
Rothwell	... J. More, M.R.C.S.	... Rothwell
Rushden	... O. A. J. N. Muriset, M.B.	... Rushden
Wellingborough	... J. Arthur, M.D.	... Wellingborough
RURAL :—		
Brackley	... G. N. Stathers, M.R.C.S., D.P.H.	Brackley
Brixworth	... R. Winterbotham, M.R.C.S.	... Brixworth
Crick	... A. G. L. Smith, M.R.C.S.	... Crick
Daventry	... A. R. Darley, M.D.	... West Haddon, Rugby
Easton-on-the-Hill	T. P. Greenwood, M.R.C.S.	... Stamford
Gretton	... J. E. O'Connor, M.D., D.P.H.	... Kirby Muxloe, Leicester
Hardingstone	... H. F. Percival, M.R.C.S., O.B.E.	Northampton
Kettering	... L. W. Dryland, M.R.C.S., D.P.H.	Kettering
Middleton Cheney	J. I. Johnson, L.R.C.P.	... Culworth, Banbury
Northampton	H. F. Percival, M.R.C.S., O.B.E.	Northampton
Oundle	C. N. Elliott, M.B., J.P.	... Oundle
Oxendon	... C. T. Scott, M.B.	... Market Harboro'
Potterspury	... A. H. Habgood, M.D., D.S.O.	... Stony Stratford
Thrapston	... C. N. Elliott, M.B., J.P.	... Oundle
Towcester	... C. Simpson, M.B.	... Towcester
Wellingborough	... J. Arthur, M.D.	... Wellingborough

APPENDIX I.

ANNUAL REPORT OF THE CHIEF TUBERCULOSIS
OFFICER FOR THE YEAR 1921.

The chief event of the year as far as the County Anti-Tuberculosis Scheme is concerned was the opening of Rushden House Sanatorium. The first patients were admitted at the beginning of September and 50 beds were occupied by the end of the year. The Institution has 68 beds, 50 of which are reserved for county patients, while it is hoped that it will be possible to let the remaining 18 beds to other authorities.

Miss B. A. Allsop, M.M., was appointed Matron of the Institution in April and during the time which elapsed from her appointment until the opening of the Institution she assisted the Chief Tuberculosis Officer in preparing the Institution for the reception of patients.

Mr. J. H. Crane, M.B.E., B.A., M.D., Ch.B., B.A.O., D.P.H., was appointed Resident Medical Officer to the Institution and commenced duties on the 4th October, 1921. At the end of the year he was appointed Medical Superintendent on the resignation of the Chief Tuberculosis Officer.

During the first three months of the year, the Chief Tuberculosis Officer was absent from duty on account of illness, and the work was carried on first by Dr. Bullock, who had acted as Tuberculosis Officer during the war period. Unfortunately, after acting as locum for a few weeks he died suddenly. During the rest of the three months, Dr. Cooke carried on the duties.

At the end of the year the Chief Tuberculosis Officer resigned his office.

The general scheme of last year's report is again followed this year.

TABLE I.

DISPENSARIES.	Number of Patients who attended one or more times at the Dispensaries during 1921.							Number of Attendances made by Patients at the Dispensaries.				
	Insured.			Non-Insured.			Ex- Service Patients	Total	Male	Female	Ex- Service Patients	Total
	Male	Female	Both Sexes	Male	Female	Both Sexes						
NORTHAMPTON	29	40	69	37	78	115	72	256	285	603	446	1,334
KETTERING	78	110	188	49	85	134	70	392	902	1,578	835	3,315
WELLINGBOROUGH	71	106	177	75	134	209	94	480	975	1,657	836	3,468
TOTALS	178	256	434	161	297	458	236	1,128	2,162	3,838	2,117	8,117

VISITS MADE BY THE CHIEF TUBERCULOSIS OFFICER TO PATIENTS IN THEIR OWN HOMES.

C.T.O. VISITS ...	15	18	33	10	25	35	45	113
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DISPENSARY WORK.

COUNTY TUBERCULOSIS DISPENSARIES.

(1) NORTHAMPTON. 18, Guildhall Road, Northampton
(Administrative Centre).

(2). KETTERING. Lower Street, Kettering.

(3) WELLINGBOROUGH. 108, Midland Road, Wellingboro'.
Chief Tuberculosis Officer, O. A. J. N. Muriset, M.B., Ch.B.

Table I. shows in detail the general work done at the Dispensaries during the year. 1,128 patients visited the three Dispensaries and made a total of 8,117 visits or an average of 7.2 visits per patient. Of the 1,128 patients attending 434 or 38.5% were insured persons as distinct from ex-service patients, 458 or 40.6% were non-insured persons and 236 or 20.9% were ex-service patients. The total number of patients attending the Dispensaries during the year was slightly less than the total for the previous year, but the total number of visits made by patients was much in excess of last year's figures.

TABLE II.
NEW PATIENTS.

	Insured.			Non-insured.			Ex-Service Patients	TOTAL.
	Male	Female	Both Sexes	Male	Female	Both Sexes		
Pulmonary Tuberculosis ...	38	38	76	14	29	43	46	165
Other Forms of Tuberculosis	4	4	8	6	7	13	3	24
Suspects	9	21	30	20	23	43	13	86
Non-Tuberculous	8	10	18	5	12	17	2	37
TOTAL	59	73	132	45	71	116	64	312

NEW PATIENTS.

Table II. shows that 312 new patients presented themselves for examination at the Dispensaries for the first time

during 1921. Of these, 165 or 52·9% were found to be suffering from Pulmonary Tuberculosis, 24 or 7·7% were found to be suffering from other forms of Tuberculosis, 86 or 27·6% were suspicious cases of Tuberculosis, and in 37 or 11·8% of the cases no evidence of Tuberculosis was found.

The Table also shows that of the 312 new patients 132 or 42·3% were insured persons, 116 or 37·2% were non-insured persons, and 64 or 20·5% were ex-service patients. If a comparison is made between this year's figures and those for last year, it will be found that the total number of new patients this year is somewhat lower than that for last year, but the percentages of the different classes of patients remain much as before, except in the case of ex-service patients whose percentage is much lower this year. This is only what one would expect, for the longer the period since war service, the less likely is Tuberculosis to develop as a result of such service.

115 applications for treatment were received during the year.

TABLE III.
CONTACTS.

	Insured.			Non-Insured.			Ex-Service Patients.	TOTAL
	Male	Female	Both Sexes.	Male	Female	Both Sexes		
Pulmonary Tuberculosis	3	7	10	4	2	6	2	18
Other Forms of Tuberculosis	...	...	...	...	...	...	...	...
Suspects	4	10	14	13	21	34	2	50
Non-Tuberculous	5	8	13	26	37	63	2	78
TOTAL	12	24	37	43	60	103	6	146

Table III. shows that 146 contacts were examined during the year in addition to the 312 new patients. Of these, 18 or 12·3% were found to be suffering from Pulmonary Tuberculosis, 50 or 34·3% were suspicious cases of Pulmonary

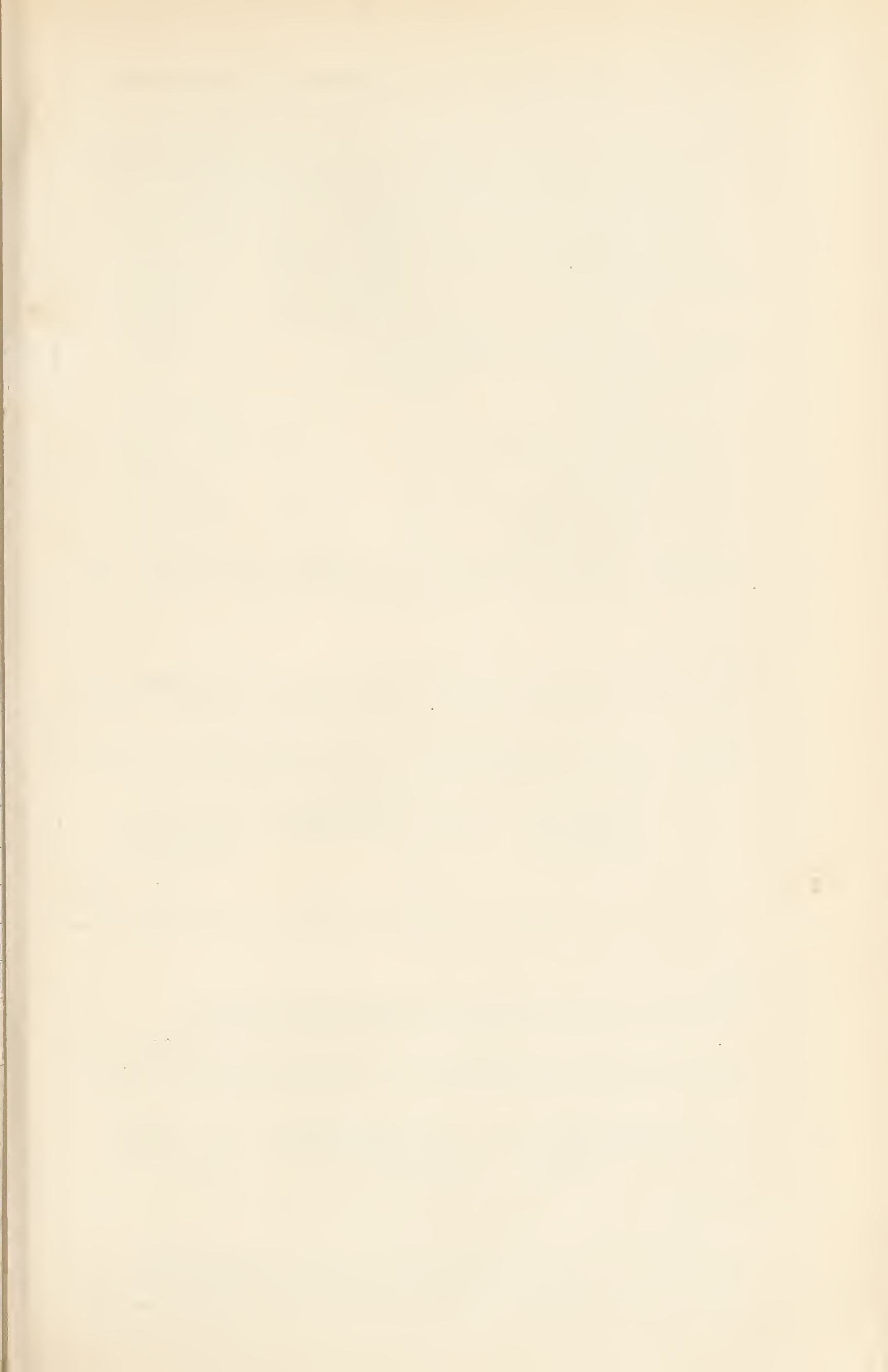


TABLE IV.

OCCUPATIONAL INCIDENCE OF THE 165 NEW PATIENTS FOUND TO BE SUFFERING FROM PULMONARY TUBERCULOSIS.

INSURED MALES.			INSURED FEMALES.			NON-INSURED MALES.			EX-SERVICE PATIENTS.			EX-SERVICE PATIENTS.			TOTAL
Shoe Operative ...	16		Shoe Operative ...	11		Hawker ...	1		Shoe Operative ...	12		Continued ...	36		
Agricultural Labourer	1		Bakehouse Help ...	1		Railway Clerk ...	1		Asst. Inspect. Weights			Newsagent ...	1		
Assurance Supt. ...	1		Barmaid ...	1		Schoolboy ...	10		and Measures ...	1		Packer ...	1		
Bricklayer's Labourer	1		Charwoman ...	1		Shoe-work ...	1		Baker ...	1		Steel Worker ...	1		
Clerk ...	2		Clothing Machinist ...	3		Unascertained ...	1		Blacksmith ...	1		Shop Assistant ...	1		
Currier ...	1		Clerk ...	2		Non-insured Males	14		Bricklayer's Labourer	1		Tailor ...	1		
Dairyman ...	1		Domestic ...	14				Butler ...	1		Warehouseman ...	1			
Decorator ...	1		Gardener ...	1		NON-INSURED FEMALES.			Carpenter ...	2		Unascertained ...	4		
Engineer ...	2		Insurance Agent ...	1				Chauffeur ...	1						
Fruiterer ...	1		Parlour Maid ...	1		Houseworker ...	19		Commercial Traveller	1					
Gardener ...	1		Shop Assistant ...	1				Infant ...	1		Electrician ...	1			
Grocer ...	1		Tailoress ...	1		Nurse ...	1		Farmer ...	1					
Indoor Servant ...	1					Schoolgirl ...	7		Fireman ...	1					
Iron Moulder ...	1					Unascertained ...	1		Gardener ...	1					
Joiner & Undertaker	1					Non-insured Females	29		General Labourer ...	3					
Miner ...	1							Non-insured Males			Greengrocer ...	1			
Policeman ...	1					and Females ...	43				Gunsmith ...	1			
Ships Steward ...	1							Contd. next column	36		Ironstone Labourer...	3			
Stone Mason ...	1					Ex-Service Patients	46				Motor Driver ...	1			
Tailor's Cutter ...	2							165			Motor Engineer ...	2			
Insured Males ...	38		Insured Females	38											

TABLE V.

OCCUPATIONAL INCIDENCE OF THE 24 NEW PATIENTS FOUND TO BE SUFFERING FROM OTHER FORMS OF TUBERCULOSIS.

INSURED MALES.		INSURED FEMALES.		NON-INSURED MALES.		NON-INSURED FEMALES.		EX-SERVICE PATIENTS.		TOTAL
Crown Labourer ...	1	Domestic ...	3	Schoolboy ...	6	Errand Girl ...	1	Furnace Labourer ...	1	
Farm Labourer ...	1	Shoe Machinist ...	1			Houseworker ...	3	Shoe Operative ...	2	
Park Keeper ...	1					Schoolgirl ...	2			
Shop Assistant ...	1					Sewing Maid ...	1			
	4		4		6		7		3	24

TABLE VI.

OCCUPATIONAL INCIDENCE OF THE 18 CONTACTS FOUND TO BE SUFFERING FROM TUBERCULOSIS.

INSURED MALES.		INSURED FEMALES.		NON-INSURED MALES.		NON-INSURED FEMALES.		EX-SERVICE PATIENTS.		TOTAL
Baker ...	1	Charwoman ...	1	Schoolboy ...	2	Schoolgirl ...	1	Ironstone Labourer...	1	
Plumber ...	1	Domestic Servant ...	2	Unascertained ...	2	Shop Assistant ...	1	Shoe Finisher ...	1	
Shoe Finisher ...	1	Housework ...	1			(at home)				
		Shoe Machinist ...	3							
Insured Males ...	3	Insured Females	7	Non-insured Males	4	Non-insured Females	2	Ex-Service Patients	2	18

Tuberculosis, and 78 or 53·4% showed no signs of Tuberculosis. This year's contact total does not compare very well with last year's figures, but this is explained by the Chief Tuberculosis Officer's absence at the beginning of the year and, in addition, by the fact that during the later part of the year, as Medical Superintendent of Rushden House Sanatorium, a great deal of his time was taken up by this Institution which would otherwise have been devoted to the examination of Contacts.

Tables IV. and V. are self explanatory.

Table IV. shows that practically half of the insured males found to be suffering from Pulmonary Tuberculosis were employed in the boot and shoe trade. The same statement holds good for the occupied female patients. In the case of the ex-service patients, however, only one-third were so employed.

Table VI. shows the Occupational Incidence of Tuberculosis in the Contacts.

HOME VISITATIONS BY TUBERCULOSIS NURSES.

During the year the three Tuberculosis Nurses made 6,432 visits to the homes of tuberculous patients. Of these, 4,953 were made to the homes of civilians and 1,479 to the homes of ex-service patients.

METHODS OF DIAGNOSIS.

During the year, 218 specimens of sputa have been examined; 89 gave a positive result and 129 negative, as regards the discovery of the Tubercle Bacillus.

Specimens of sputa may be sent to the Dispensaries by any medical man in the County, and the result of examination is reported to him without charge.

In last year's report a new method of diagnosis by means of Tuberculin was mentioned. Work on this has been going on during the year with fairly encouraging results. Many patients were "tested," and those cases where there was no

doubt as to the diagnosis were used as controls. It may be stated generally that the method is a modification, as suggested by Ellis, of the old Von Pirquet Test, and after numerous trials of many dilutions of old tuberculin, the following have been found most useful, viz. :— $1/10$, $1/100$, $1/500$. A special scarifying scalpel with a rounded cutting end was used and the small incisions are all made in the one direction. The dilutions do not seem to keep more than 10—14 days, and of course must be made up under aseptic conditions.

In reading the results of the tests the colour and thickening have to be taken into account.

The general results of the test up to the present may be stated as follows :—

(a). NO REACTION: with the patient in a good condition means generally no active Tubercle, but absence of reaction to all dilutions was seldom seen. If the patient is evidently going down hill from Tuberculosis he may not react at all, or the sites of inoculation may only show a bluish reaction.

(b). REACTION TO $1/10$ ONLY. This means, as a rule, that the patient is infected with Tuberculosis, but the disease is inactive and the patient may to all intents and purposes be treated as non-tuberculous.

(c). REACTION TO $1/10$ AND $1/100$, probably means active Tuberculosis. The patient should certainly be given the benefit of the doubt and treated as such.

(d). REACTION TO $1/10$, $1/100$, AND $1/500$ is shown in cases which are hyper-sensitive to Tuberculosis, and in whom the margin of possible resistance is small. Such cases are certainly tuberculous.

The above statements should only be considered generally, for it will require time to show whether one's deductions are correct.

One very instructive case presented itself during the year which illustrated well the use of this test. It was that of a

young woman who showed evidence of enlarged cervical glands. The test was negative on two occasions. The patient was sent to one of the London hospitals where at first the diagnosis of Tuberculosis was made. Later a gland was removed by operation and from this a guinea pig was inoculated but this test animal showed no evidence of Tuberculosis.

SHELTERS.

The number of shelters occupied by tuberculous patients during the year was 22. Twenty of these are the property of the County Council ; two are privately owned, but have been lent for the use of county patients. One shelter which did not warrant repair was sold and replaced by a new one. Four of the shelters were transferred to different parts of the County during the year.

CLASSIFICATION OF TUBERCULOSIS DEATHS OCCURRING IN THE ADMINISTRATIVE COUNTY DURING THE YEAR 1921.

Taken from Returns of Registrars of Deaths.

	Male.	Female.	TOTAL
Lungs	73	77	150
Meninges	5	3	8
Peritoneum and Intestines	1	3	4
Spinal Column ... ..	...	...	...
Generalized	3	4	7
Joints	3	...	3
TOTAL	85	87	172

TERMINATION OF SANATORIUM BENEFIT.

With the termination of Sanatorium Benefit on the 30th April, 1921, the County Council automatically became directly responsible for the administration of all forms of treatment in connection with Tuberculosis, and a great deal of work was transferred from the Northamptonshire Insurance Committee to the department of the Chief Tuberculosis Officer including :

- (a). The keeping of records hitherto kept by the Northamptonshire Insurance Committee.
- (b). The arrangements for procuring quarterly reports from Medical Practitioners in respect of tuberculous patients receiving Domiciliary Treatment at their hands. These reports amount to over 500 each quarter, and it has been found necessary to obtain temporary clerical assistance at the commencement of each quarter in order to send these forms to the various Medical Practitioners in the County for completion.
- (c). A scheme for the supply of extra nourishment to tuberculous persons, who are under treatment otherwise than in residential institutions and in whose cases the Chief Tuberculosis Officer deemed such provision necessary as part of treatment, was formulated and received the sanction of the Minister of Health. In this connection an average of 20 pints of milk per day were supplied throughout the year, this amount being inclusive of that previously given by the Insurance Committee.

INSTITUTIONAL TREATMENT.

County Institution for the Treatment of Pulmonary
Tuberculosis,

RUSHDEN HOUSE SANATORIUM, RUSHDEN.

Medical Superintendent :—O. A. J. N. Muriset, M.B., Ch.B.

Resident Medical Officer :—J. H. Crane, M.B.E., B.A., M.D.,
Ch.B., B.A.O., D.P.H.

Matron :—Miss B. A. Allsop, M.M.

Number of beds, 68.

Other Institutions to which county patients have been sent during the year :—

Northamptonshire Sanatorium, Creaton.

National Sanatorium, Benenden.

Royal National Sanatorium, Bournemouth.

Royal Sea Bathing Hospital, Margate.

Grosvenor Sanatorium, Kennington.

Shropshire Orthopaedic Hospital, Oswestry.

National Children's Home Sanatorium, Harpenden.

As stated earlier in this report, Rushden House was opened in September. The Institution contains 68 beds, 50 of which are reserved for the use of county patients, the remaining 18 beds may, if not required for county patients, be let to other authorities or occupied by paying patients. 14 of the beds are in the main Administrative Building, and are utilised for those patients whose condition is such that they are confined to bed. The rest of the beds are housed in outlying pavilions. There is a special pavilion for children comprised of two wards with an intervening playroom. The pavilions for the male and female patients are divided up into cubicles, most of which contain two beds, but there are a few single cubicles. Two excellent recreation rooms are provided, one for males and one for females.

Table VII. shows that 129 patients received treatment in Residential Institutions during the year. Of this number 68 were insured persons, 34 were non-insured persons and 27 were ex-service patients. This year's total shows a decrease as compared with last year's figures.

TABLE VII.
SANATORIUM TREATMENT.

SANATORIA	Insured.			Non-Insured.			Ex-Service Patients	Total
	Male	Female	Both Sexes	Male	Female	Both Sexes		
Rushden House ...	14	13	27	7	14	21	7	55
Creton ...	14	13	27	1	4	5	18	50
Harpenden ...	...	...	...	2	4	6	...	6
Benenden ...	2	...	2	...	...	...	...	2
Bournemouth ...	...	1	1	...	...	...	...	1
Margate R S.B.H. } (Surgical) }	2	1	3	...	...	...	...	3
Grosvenor, Kent ...	1	7	8	...	2	2	1	11
Shropshire } Orthopædic Hos- } pital (Surgical) }	...	...	...	...	...	...	1	1
TOTAL	33	35	68	10	24	34	27	129

TABLE VIII.
IMMEDIATE RESULTS OF INSTITUTIONAL TREATMENT.

SANATORIA.	Arrested.		Much Improved.		Improved.		Stationary.		Worse.		Died in Sanatoria.		In Sanatoria at end of Year.		TOTAL.
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
RUSHDEN HOUSE ...	...	...	1	...	...	2	2	...	...	1	...	...	25	24	55
CREATON ...	12	6	14	5	5	3	1	3	1	...	...	...	...	...	50
HARPENDEN ...	...	...	2	4	...	...	...	...	...	...	...	...	...	...	6
BENENDEN ...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
BOURNEMOUTH ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
MARGATE (Surgical) ...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	3
GROSVENOR, Kent	...	4	2	3	...	1	...	1	...	...	...	...	...	...	11
SHROPSHIRE ORTHOPÆDIC HOSPITAL (Surgical) )	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
TOTAL ...	12	10	22	13	5	7	3	4	1	1	...	...	27	24	129
<div><div><div>22</div><div>17.05%</div></div><div><div>35</div><div>27.13%</div></div><div><div>12</div><div>9.3%</div></div><div><div>7</div><div>5.43%</div></div><div><div>2</div><div>1.55%</div></div><div><div>0</div><div>0.00%</div></div><div><div>51</div><div>39.54%</div></div></div>															

Table VIII. sets out in detail the immediate results of Institutional Treatment and is self explanatory.

The average period of treatment of patients who were discharged from Residential Institutions during the year was 124 days, the longest period being 284 days and the shortest 13 days.

EX-SERVICE PATIENTS.

Tables IX., X. and XI. deal with ex-service patients as distinct from civilian patients. These tables show that particular attention has been given to ex-service men.

Table IX. shows that 236 ex-service patients attended at the three Dispensaries and made a total of 1,787 attendances, or an average of 7·5 visits per patient. A number of these patients received actual Dispensary treatment, but the majority attended for recommendation as to treatment and for examination on behalf of the Pensions Committee.

TABLE IX.

EX-SERVICE PATIENTS ATTENDING DISPENSARIES.

DISPENSARIES.	Total No. of Ex-Service Patients who attended one or more times at the Dispensaries.	Total No. of Attend- ances made by Ex- Service Patients at the Dispensaries.
NORTHAMPTON ...	72	416
KETTERING ...	70	535
WELLINGBOROUGH ...	94	836
TOTAL ...	236	1,787

Table X. shows that 64 new ex-service patients presented themselves for examination during the year. Of these, 46 or 71·9 per cent. were suffering from Pulmonary Tuberculosis, 3 or 4·7 per cent. were suffering from other forms of Tuberculosis, 13 or 20·3% were suspicious cases of Tuberculosis, and 2 or 3·1% were not suffering from Tuberculosis. The Table also sets out, in addition to these figures, that 6 ex-service "contacts" were examined. Of these, 2 were suffering from Pulmonary Tuberculosis, 2 were suspects and 2 did not show signs of Tuberculosis.

The Tuberculosis Nurses made 1,479 visits to the homes of ex-service patients.

TABLE X.
CLASSIFICATION OF EX-SERVICE PATIENTS.

Classification of Ex-Service Patients who attended the Dispensaries for the first time during 1921.				Classification of Ex-Service Contacts who attended the Dispensaries for the first time during 1921.				TOTAL.
Pulmonary Tuberculosis	...	46		Pulmonary Tuberculosis	...	2		48
Other Forms of Tuberculosis	...	3		Other Forms of Tuberculosis	...	...		3
Suspects	...	13		Suspects	...	2		15
Non-Tuberculous	...	2		Non-Tuberculous	...	2		4
TOTAL	...	64		TOTAL	...	6		70

Table XI. sets out the immediate results of Institutional Treatment in the case of 27 ex-service men so treated. The Table is self-explanatory.

It will be noted, if this year's figures for ex-service patients

are compared with those for last year, that there is a considerable falling off in the numbers. As stated earlier in the report, this is only what one would expect, as the farther we get from the war period the fewer will be the cases of Tuberculosis developing in connection with their service.

TABLE XI.

SANATORIUM TREATMENT OF EX-SERVICE PATIENTS,
SHOWING IMMEDIATE RESULTS.

SANATORIA	Disease Arrested	Much Improved.	Improved.	Stationary.	Worse.	Died in Sanatoria.	Still in Sanatoria.	Total
RUSHDEN HOUSE ...	...	...	...	...	...	...	7	7
CREATON	4	6	8	...	...	...	...	18
GROSVENOR ... ..	...	1	...	...	...	...	...	1
SHROPSHIRE ORTHOPÆDIC HOSPITAL (Surgical) }	...	...	...	...	...	...	1	1
TOTAL ...	4	7	8	...	...	...	8	27

OLIVIER A. J. N. MURISSET,

Chief Tuberculosis Officer.

APPENDIX II.

REPORT ON MATERNITY AND CHILD WELFARE
WORK FOR THE YEAR 1921.

(a) INSPECTION OF MIDWIVES.

The following inspections were made during the year, several of the nurses concerned were seen at work and the houses of two reported as insanitary. The help of the Northamptonshire District Nursing Association was given for 41 routine inspections and one special investigation, all of which are included in the totals.

Routine inspections, 435. Special, 21. To uncertified women, 2. TOTAL, 458.

The special investigations included enquiries into cases of puerperal fever, ophthalmia neonatorum, high temperature, abdominal pain, artificial feeding, etc.

Of the total births in the County (4,166) 51 per cent. were attended by midwives (previous three years were 49 per cent., 53·7 per cent., and 44·7 per cent.) Twenty-six of the enrolled bonâ fide women notified their intention to practise and 22 practised. Thirty-seven per cent. of the midwifery done by midwives was done by these (787 cases).

Notified intention to practise	...	...	...	147
(26 enrolled bonâ fide, 4 County Council Scholars).				
In practice at end of 1921	...	...	...	108
Left the County	...	...	...	15
Died	...	...	...	3
Temporary	...	...	...	18
Ceased to practise	...	...	...	3

Puerperal Fever. Five cases were notified, and five deaths were reported as due to this cause; two of the deaths were, however, of un-notified cases. Two of the notified cases occurred in the practices of midwives (one trained, one bonâ

fide) and both were fatal. Both were investigated, and it was thought that in one case the nurse who had done temporary duty might have had the house improved in cleanliness had she visited and seen the state of things. This nurse had in the meantime left the County, but the attention of the permanent nurse was drawn to the arrangement with health visitors to do ante-natal visiting when requested to do so, and she was asked to mention to any locum tenens she might have later that this could be done should the work of the district prove too heavy to enable her to pay the necessary visits.

Ophthalmia Neonatorum. Fifteen cases were notified. Seven of these were in doctors' practices and eight in midwives' practices. Both eyes suffered in all but one case; all made a complete recovery except one doctor's case which was still under treatment for ulcers of both corneæ (eccentric).

Stillbirths. The midwives' annual report includes 66 still-births (3·07 per cent. of the births attended).

Feeding of Infants. The figures for breast feeding during the puerperium are :—Of 2,084 live infants 37 or 1·8 per cent. died within a few hours of birth and were never in a condition to be fed. Of the remaining 2,047

Breast-fed, 96·14 per cent.

Partly Breast and partly Artificially, ·93 per cent.

Artificially fed, 2·93 per cent.

This is quite up to the standard of previous years, and it is doubtful whether this figure can be improved upon. Breast feeding during the puerperium is mainly the concern of the infant, and such factors as underfeeding of the mother do not come into play until later in the period of lactation—about the third month. These artificially fed infants and the partly artificially fed infants come mainly under the heading of weakly infants with faulty suction apparatus which never establishes the flow of milk; a certain number belong to the unavoidable class where the mother is medically advised not to suckle, or has to leave the infant, etc.

The notification of artificial feeding was better carried out this year than last, 60 cases being reported at the end of the year and 31 having been notified. In some cases the doctor had been called in already, and a notification form was consequently not sent, but many were omitted. The reasons given on notifications were :—

Insufficient or no milk	...	...	...	...	...	12
Death of mother (Pneumonia 1, Embolism 1)					...	2
Mother refuses	...	...	...	...	...	4
Inverted nipples	...	...	...	...	...	2
Malformed breasts	...	...	...	...	...	1
Eczema of breasts	...	...	...	...	...	1
Doctor's orders	...	...	...	...	...	4
Weakness of mother	...	...	...	...	...	1
Mother going to work	...	...	...	...	...	2
Infant refuses to take	...	...	...	...	...	1
Cleft palate	...	...	...	...	...	1
						—
						31
						—

Medical aid was summoned as follows :—

PREGNANCY—

Miscarriage	...	...	...	...	...	14
Ante-partum hæmorrhage	...	...	...	...	...	11
Swelling of hands and face	...	...	...	...	...	1
Albuminuria	...	...	...	...	...	1
						—
						27

LABOUR—

Prolonged, 2nd stage	...	...	...	...	79
Rupture of perinæum	...	...	...	...	57
Malpresentation	...	...	...	...	15
Retained or adherent placenta			...	...	14
Post partum hæmorrhage	...	...	...	...	3
Prolonged 1st stage	...	...	...	...	2
Eclampsia	...	...	...	...	1



Summarised Statement of the Health Visitors' Work during the Year 1921.

TABLE 1.
DISTRICTS.

NO. OF VISITS PAID TO :	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	No. 10.	No. 11.	No. 12.	Totals.	Brackley Area.
Expectant Mothers first time	13	19	43	17	33	20	14	17	23	50	9	23	281	173
Expectant Mothers subsequently	21	15	57	24	93	7	33	52	35	63	11	22	433	607
TOTALS	34	34	100	41	126	27	47	69	58	113	20	45	714	780
New Cases, 1st time	162	278	277	351	392	182	134	177	282	312	332	216	3095	268
New Cases, subsequently	753	1306	1237	1431	1340	1332	534	681	1327	1061	1044	772	12818	32
Previous Year cases on Cards (1920) 3765	810	853	1371	1446	745	1329	587	1054	968	1315	1026	1140	12644	2136
Infants over 12 months	1259	1146	1363	1505	647	968	967	2108	1159	1690	1214	1072	15098	2351
Still-birth enquiries ... ..	...	2	10	13	2	5	7	4	5	7	7	2	64	8
Visits to Infant Welfare Centres	29	19	22	4	85	46	...	...	19	...	40	...	264	...
Special Cases (under 1 yr.) Do. (over do.)	9	5	25	13	46	4	12	13	5	19	15	5	171	...
Mentally Defectives	4	3	32	6	29	3	5	17	2	11	15	...	127	...
Mentally Defectives	10	17	28	39	8	27	4	6	22	7	33	3	204	15
TOTALS	3036	3629	4365	4808	3294	3896	2250	4060	3789	4422	3726	3210	44485	4810
Total Number of Visits	3070	3663	4465	4849	3420	3923	2297	4129	3847	4535	3746	3255	45199	5590

TABLE 2.

New cases notified	129	183	238	326	359	163	109	155	252	275	321	233	2743	251
New cases unnotified	21	90	44	43	40	15	27	24	49	31	29	7	420	32
Transferred new cases (from other County areas)	17	12	13	11	14	9	7	15	7	37	15	1	158	6
No. of still-births notified ... ..	...	2	6	13	2	4	3	4	5	6	7	1	53	7
No. of Infants died before visited... ..	...	5	7	12	15	...	1	2	12	9	8	11	82	2
No. of Infants removed before visited... ..	2	...	4	...	2	...	1	1	4	11	10	6	41	...
No. of Infants unnecessary to visit	2	...	1	4	2	1	4	10	4	4	7	7	46	8
No. of ineffectual visits	1	...	...	...	...	...	...	...	1	1	1	...	4	2
No. of Women attended by :—														
Medical Practitioner	38	170	115	144	184	147	71	57	116	63	141	73	1319	82
Medical Practitioner and Midwife	42	41	35	9	31	...	33	52	73	95	56	34	501	28
Trained Midwife	79	63	110	24	140	14	29	55	57	144	125	88	928	157
Untrained Midwife (<i>bona fide</i>)	2	4	17	174	37	20	...	13	36	10	10	21	344	...
Handy Woman	1	...	...	...	...	1	1	...	...	...	...	...	3	1
Illegitimate Births (included in above)	6	9	12	14	19	6	5	7	12	9	6	6	111	12
Premature Births (included in above)	4	11	22	6	7	4	2	2	17	5	4	12	96	5

TABLE 3.

DISTRICTS.	Health of Mother.				Condition of Infants at Birth.				Defects pointed out as to					Cases reported to the			Medical Attendance Advised for Infant.	Medical Attendance Advised for Mother.	Deaths under 1 Year.	Deaths over 1 Year.
	Good	Fair	Bad	Totals	Good.	Fair.	Weakly	Totals.	Sleeping.	Food.	Clothing.	Care of Infant.	General Cleanliness.	Local Sanitary Authority.	N.S.P. C.C.					
1. Oundle	141	20	1	162	141	18	3	162	114	861	231	277	10	6	...	49	21	5	1	
2. Kettering	202	61	15	273	226	39	13	278	65	465	150	388	15	4	5	49	18	9	3	
3. Thrapston	218	53	6	277	210	48	19	277	381	329	291	157	118	7	...	132	40	5	1	
4. Rushden	310	31	10	351	304	37	10	351	279	117	264	57	46	7	...	70	31	8	7	
5. Wellingborough ...	337	53	2	392	345	35	12	392	86	40	42	19	9	4	1	31	6	16	1	
6. Rothwell	165	16	1	182	168	8	6	182	337	785	345	32	4	...	...	19	12	7	1
7. Market Harborough	89	12	3	134	107	23	4	134	47	61	48	20	4	...	...	12	10	4	...
8. Brixworth	149	26	2	177	160	11	6	177	74	104	70	16	39	6	...	32	20	7	...	
9. Earls Barton	205	65	12	282	236	38	8	282	254	872	274	500	32	25	1	114	53	10	2	
10. Northampton	251	46	15	312	260	45	7	312	369	1024	338	599	268	15	...	169	55	8	4	
11. Daventry	304	27	1	332	306	24	2	332	147	418	14	4	1	3	...	7	3	5	5	
12. Towcester	175	36	5	216	181	28	7	216	243	143	157	35	36	2	...	19	11	3	2	
TOTALS	2546	476	73	3095	2644	354	97	3095	2396	5219	2224	2134	582	79	7	703	280	87	27	
BRACKLEY AREA	248	18	2	268	253	40	5	268	107	155	62	89	56	2	...	57	7	7	1	



TABLE 4.
SUMMARISED TABLE OF DEATHS OF INFANTS.

CAUSES OF DEATH.	Under 1 Month.	1 Month and under 2 Months.	2 Months and under 3 Months.	3 Months and under 4 Months.	4 Months and under 5 Months.	5 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under 1 Year.	1 Year and under 2 Years.	2 Years and under 3 Years.	3 Years and under 4 Years.	4 Years and under 5 Years.	Total Deaths over 1 and under 5 years.	Grand Total.	CAUSES OF DEATH.
Congenital Malformation	1	...	...	...	...	...	...	1	...	...	...	...	...	1	Congenital Malformation
" Heart Disease	1	...	...	...	...	...	...	1	...	...	...	...	...	1	" Heart Disease
Premature Births ...	2	2	1	...	...	...	2	...	7	...	...	...	...	...	7	Premature Births
Atrophy, Debility and Marasmus ...	1	2	1	2	1	...	2	1	10	...	...	...	...	...	10	Atrophy, Debility and Marasmus
Convulsions	4	1	...	...	...	2	...	7	2	...	...	...	2	9	Convulsions
Tuberculosis	1	1	...	...	...	...	2	1	2	...	...	3	5	Tuberculosis
Tubercular Meningitis	2	...	2	1	...	...	...	1	3	Tubercular Meningitis
Meningitis	1	...	...	...	3	4	1	2	...	...	3	7	Meningitis
Bronchitis	1	1	1	1	...	1	2	7	2	...	...	...	2	9	Bronchitis
Laryngitis	1	1	1	...	...	...	1	2	Laryngitis
Diphtheria	1	...	1	1	Diphtheria
Pneumonia (all forms)	1	2	3	2	1	4	5	18	3	2	...	...	5	23	Pneumonia (all forms)
Collapse of Lungs	1	...	...	...	...	...	...	1	...	...	...	...	...	1	Collapse of Lungs
Empyema	1	1	...	...	...	...	...	1	Empyema
Whooping Cough	1	...	1	...	...	1	2	5	...	1	1	...	2	7	Whooping Cough
Enteritis	2	1	1	...	1	2	2	9	1	2	...	...	3	12	Enteritis
Gastro Intestinal Catarrh	2	...	...	1	...	...	1	4	...	...	...	...	...	4	Gastro Intestinal Catarrh
Gastritis	1	...	...	...	...	...	1	...	...	...	...	...	1	Gastritis
Peritonitis	1	...	...	...	1	1	Peritonitis
Cretin	1	...	...	...	...	1	...	...	...	...	...	1	Cretin
Eczema	1	...	...	...	...	...	...	1	...	...	...	...	...	1	Eczema
Syphilis	2	1	...	1	...	...	4	...	...	...	...	...	4	Syphilis
Accident	3	...	...	...	3	3	Accident
TOTALS ...	3	19	11	12	5	3	16	18	87	16	9	2	...	27	114	TOTALS
BRACKLEY AREA.																BRACKLEY AREA
Pneumonia	2	1	3	...	...	...	...	...	3	Pneumonia
Enteritis	1	...	1	1	...	...	...	1	2	Enteritis
Pyloric Obstruction	1	...	...	...	...	...	1	...	...	...	...	...	1	Pyloric obstruction
Aphthæ	1	...	...	...	...	...	...	1	...	...	...	...	...	1	Aphthæ
Accident	1	...	1	...	...	...	...	...	1	Accident
TOTALS	1	1	...	...	...	4	1	7	1	...	...	...	1	8	TOTALS

Fatigue	...	...	...	...	...	1
Patient passing meconium	...	...	...	...	...	1
Weakness of patient	...	...	...	...	...	1
Vaginal polypus	...	...	...	...	...	1
						—— 175

LYING-IN—

Raised temperature and pulse	...	...	...	...	7
General debility	...	...	...	...	3
Swelling of leg	...	...	...	...	3
Swelling of and pain in breasts	...	...	...	...	2
Hæmatoma of vagina	...	...	...	...	1
Fainting	...	...	...	...	1
Asthma	...	...	...	...	1
Anæmia	...	...	...	...	1
Purulent vaginal discharge	...	...	...	...	1
Diarrhœa and sickness	...	...	...	...	1
Bronchitis	...	...	...	...	1
Pain in right iliac region	...	...	...	...	1
					23
					225

Provision for cases outside midwifery areas was asked for from the Northamptonshire District Nursing Association in five cases and supplied in four cases.

Three new midwifery areas were formed in Kettering, Rushden and Wilbarston.

(b) HEALTH VISITING.

During this year the experiment of working one of the districts, previously under one whole time Health Visitor by means of District Nurses was tried.

The Brackley area was selected, as it was the area most covered by District Nurses. This area is divided into eight nursing districts, and contains an un-nursed area of Eydon, Sulgrave, Thorpe Mandeville, Canons Ashby, and Woodford-

cum-Membris, besides Chipping Warden and Edgcote, which are nursed from Oxfordshire.

For the 8 nursed areas, 14 nurses have been employed during the 12 months, and for the un-nursed area and the two latter parishes 3 Assistant Superintendents. These changes in staff were due to three causes :—

1. Nurses moved as not capable of the work.
2. Nurses who left as finding the work too much with their nursing.
3. The usual changes in nursing staff.

The un-nursed area (with the parishes of Chipping Warden and Edgcote) is visited from Northampton by a whole-time Health Visitor appointed by the Northamptonshire District Nursing Association who travels into the area, stays there for a day or two and returns, leaving the area unattended till the next monthly visit.

All the nurses employed held the certificate of the Central Midwives Board. Their training was as follows :—

One year Plaistow, 6 ; 8 months Queen Charlotte's, 1 ; 1 year Plaistow and some other nursing, 3 ; Nursing Certificate, 3 ; Unknown, 1.

One had had some experience of health visiting.

It was agreed that the fortnightly returns made by whole-time Health Visitors should not be exacted from the Nurses, but that they should otherwise keep the forms in use, and instructions were drawn up in conjunction with the Superintendent of the Northamptonshire District Nursing Association who arranged to supervise the work monthly. The instructions were as follows :—

1.—PRIMARY DUTIES :—

- (a). The home visiting of expectant mothers until a medical practitioner or midwife is engaged, and afterwards when their assistance in that direction is desired by either of the above.

As this is done as part of the midwife's duties in nursed areas, this paragraph does not apply except in so far that it explains that nurse-midwives acting as Health Visitors visit expectant mothers even if they are not themselves engaged for the confinement, and when a doctor is engaged they cease visiting unless asked by the doctor to continue.

- (b). Ascertaining, as far as possible, whether an expectant mother has reasonable prospect of having skilled and prompt attendance during confinement at home.

This applies to un-nursed areas only.

- (c). The systematic visitation of infants and of children not on a school register, as defined in the memorandum of the Local Government Board, dated July, 1914.

The rule for home visiting is that each infant is to be visited during the fortnight subsequent to the puerperium, a card is then filled in and sent to the office for comment, if necessary, by the Lady Medical Officer. Subsequent visits are paid not less frequently than six-weekly in normal cases where the mother is known to be experienced and careful, and in cases where the infant is delicate, hard to suit in diet, or mother careless, etc., visits are to be as frequent as required—even daily for a time if necessary. Free milk cases must be visited four-weekly. From 12 months to 2 years visits to be quarterly; from 2 years till entered in school register half-yearly. A note-book must be carried to the case and the name of each infant entered in it, a consecutive number being given and entered on the “B” card when this is filled in. All particulars as to food, clothing, sleeping, cleanliness, etc., etc., should be entered in the note book, even such suspicious happenings as cups of bread sop on the table where the mother professes entirely to breast

feed ; these particulars to be copied on to the card (but such notes as that referred to may be held over until the Health Visitor has satisfied herself that the bread sop seen was not for the infant's use), etc. A weight card should be filled in and left with the mother. Weighing should be done with the infant undressed except when this is particularly inconvenient. The feeding of the infant must be always entered on the card and any and every change of food must be entered with all particulars as to the kind of bottle in use, etc.

- (d). Ascertaining the need for food and milk for mothers and children in her area under the Milk (Mothers and Children) Order, 1918.

This no longer applies.

- (e). Supplying information, with corroborative evidence, to the Lady Medical Officer, as to the necessity for free milk to cases in her area.
- (f). The sale at cost price, when desired by a parent, of dried milks and other approved foods, provided that a medical practitioner is not in attendance and with such practitioner's approval if one be in attendance.
- (g). Making preliminary investigation into still-births, and reporting on same to the Lady Medical Officer.
- (h). Attending at any Infant Welfare Centre in her area.

2. SECONDARY DUTIES.

The visitation, if so required by the County Medical Officer of Health, or the Lady Medical Officer, of—

- (a). Tuberculous patients under Dispensary treatment.

Forms for this visiting may come along any day when the Tuberculosis Officer has decided on what he wishes done.

- (b). The homes of mentally deficient.

Six-weekly reports on mentally deficient cases forwarded for report are required, and the number of such visits must be entered on the monthly report sheet.

3. All cases of unsuccessful breast-feeding to be notified if possible before artificial feeding is resorted to ; if not before, then after this has taken place.

All cases of inflammation of or discharge from babies' eyes during the first six weeks to be notified.

The Health Visitors must keep full and accurate records of the work done by them, for examination at any time by the Superintendent Health Visitor or the Lady Medical Officer, and refer all matters of difficulty to the Superintendent Health Visitor in the first instance.

MONTHLY DIARY. This must be strictly filled in as the figures are required by the Ministry of Health. Breast feeding figures need not be entered as this information is counted from the cards.

After this, it is somewhat disappointing to relate that infants were sometimes not seen for 7—8 weeks (even for two months in the case of an artificially fed "very weak" premature infant), that weight cards were frequently not given, that nurses did not know how much weight to allow for their hammock, and that the facts of the case did not agree with statements on the cards. It is clear that if untrained workers, who have to get their training as they go on, are employed, a great deal of inspection is required. The figures from this area are such as to be useless, and are not included in the feeding tables.

In the rest of the County the work went on as before, and good value is had for the money spent on it. The mothers' idea of a standard of health is improving (some even apologise when the infant has put on too much weight), the poorest cases have been helped with free milk and woollens at cost price, etc. Many more have been put in the way of helping themselves—work has been found for mothers when fathers were idle, bath chairs got on loan from the Crippled Children's Fund, help to start in business from the British Legion, etc. The co-operation of the voluntary societies with the health visiting has been cordial and invaluable. Our present

greatest need is a country holiday scheme, whereby the rickety under-nourished children of a badly managed family could be sent to a mother with good hygienic methods. This could be done at very much less cost than the Convalescent Home charge of 25/- per week, and we hope to get something of the sort in working order by next year.

FREE MILK. For some three months the free milk scheme was in abeyance owing to doubts as to how much of the money spent could be recovered from the Ministry of Health. The applications were all reviewed by the sub-committee, not more than one pint was granted per day, and this only to children under 12 months unless in very special cases. The income was seldom over 5/- per head, and frequently under, the majority of cases being unemployed.

The distribution was as follows :—

URBAN DISTRICTS.			RURAL DISTRICTS.		
		lbs.			lbs.
	Pts. (dried)			Pts. (dried)	
Brackley Borough	210	—	Brackley	... 296	—
Daventry „	256	—	Brixworth	... 967	48
Higham Ferrers			Crick ...	... 31	—
Borough	... 485	—	Daventry	... 998½	—
Desborough	... 351½	—	Gretton ...	... 16	—
Finedon ...	... 100	—	Hardingstone	... 822	13
Irthlingborough	563	6	Kettering	... 721	16
Oundle ...	... 191½	—	Middleton Cheney	515½	—
Raunds ...	... 1587½	—	Northampton	... 919½	44
Rothwell	... 108½	—	Oundle ...	... 895½	6
Rushden	... 3673½	—	Oxendon	... —	12
Wellingborough	2556	—	Thrapston	... 1673½	—
			Towcester	... 172½	—
			Wellingborough	2584½	28
<hr/>			<hr/>		
	10,082½	6		10,612½	167
<hr/>			<hr/>		

Last year it was insisted that the free milk should not be the only sustenance coming into the house ; that, if there was no source of income, milk should be granted only on the understanding that the Guardians were applied to for assistance. This year cases with no income and cases with obviously insufficient income have been granted the milk. In these cases it is doubtful whether the infant gets all the milk. It is natural to suppose that the other children share to some extent ; this is still more probable where the milk is granted to a nursing or expectant mother (52 cases).

The unemployment and resulting starvation have worked havoc with breast feeding during this year. It appears to be true that insufficient nourishment of the mother does not affect the supply of breast milk for the first three months, but after three months the milk is found lacking in fat. An attempt has been made to combat this by recommending the addition of fat after feeding, but it could seldom be provided. Even before three months the anxiety has a detrimental effect on the mother's nursing capacity.

STILLBIRTHS. Seventy-four were enquired into during the year, and results are tabulated as follows :—

I. CAUSES.

(a). Intra-natal deaths	20	Malformed pelvis—	
		craniotomy	1
		Footling in primipara ...	1
		Abnormal presentation	1
		Large child—insufficient	
		room	2
		Long and difficult labour	3
		Contracted pelvis—pro-	
		lapse of cord	1
		Transverse presentation	2
		Contracted pelvis	1
		Delay in birth, cord round	
		neck	1
		Hip disease	1

Unknown	...	...	2
Placenta prævia		...	2
Rickets in mother		...	1
Uterine inertia	...	...	1
			—
			20
			—

(b). Other than Intra-natal ... 32

Suspected venereal disease	5
Shock	2
Ante-partum hæmorrhage	2
Heart disease	1
„ „ with A.P.H.	1
Bronchitis with A.P.H.	1
Eclampsia with induction	1
Fall	4
Vomiting throughout pregnancy	1
Goitre	1
A.P.H. with induction	1
Spinal trouble	1
Tuberculosis	1
Diarrhœa	1
Indigestion and bad teeth	2
Pain in side	2
Nephritis	1
Chronic chest trouble	1
Whooping cough	1
Abscess of labium	1
Rough bus ride	1
	—
	32
	—

(c). No abnormality ascertainable ... 22

TOTAL ... 74.

II. OCCUPATION.				III. PREVIOUS PREGNANCIES.			
Laundry	...	...	1	Only stillbirths or			
Cook	...	...	1	miscarriages	...	9	
Charwoman	...	...	2	Living and stillbirths	...	24	
Factory worker	...	...	1	Live births only	...	23	
Dressmaker	...	...	1	Primipara	...	18	
Housekeeper	...	...	1				
Landworker	...	...	1				
Housewife	...	...	66				
			—				—
			74				74
			—				—

INFANT WELFARE CENTRES. Particulars as to attendance are given below, the figures being taken from the Health Visitors' note books as the Superintendent of the North-amptonshire District Nursing Association found herself unable to provide them :—

Name of Centres and Branch Centres.	Average No. of infants attending per session.	Average No. of Consultations per Doctor's attendance.	Attendances by Doctor.	Sessions.
Desborough	8	...	9	...
Daventry ...	11	...	5	...
Thrapston ...	11	...	4	...
Rothwell ...	19	...	10	...
Oundle ...	8	...	1	...
Wadenhoe { Branch { Centre }	5	...	—	...
Burton Latimer	12	...	4	...
Long Buckby	26	...	5	...
Irchester ...	15	...	3	...
Wellingborough	16	...	5	...

Wadenhoe (Branch Centre) was closed in May, and Oundle Centre in December.

The rota of doctors was objected to by the Ministry of Health in March, 1921. At Thrapston four doctors attended during

the year and at Wellingborough five. My suggestion that the Health Visitor should be *ex officio* a member of committee was not adopted. An increasing amount of the Health Visitors' time has been taken up by Centres over which neither she nor her superior officer has any control.

SOCIAL WORK. The following help was obtained by the Health Visitors for cases in their areas :—

SOURCE.	HELP.	No. OF CASES.
Private Charity	Food	9
	Clothing	32
	Bedding, etc. ...	7
	Hospital letters	5
	Employment for mother ...	4
	Employment for father ...	1
		58
Crippled Children's Fund	Surgical appliances, &c.	5
Dr. Barnardo's Homes	Weekly allowances	4
Guardians	Extra Relief ...	3
	Medical order	2
		5
Northampton Housing Com.	House in Borough	1
Distress Committee	Employment ...	4
	Milk & groceries	3
		7
Church Funds	Food	7
Wesleyan Poor Fund	Money	1
Roman Catholic Priest	Money	1
		9
Church Rescue worker	Home for unmarried mother	1
Northampton Co-op. Society	Expenses of Maternity Home	1
Labour Bureau	Overdue Money	1
General Workers' Union	" "	1
Messrs. Allenbury	Allenbury's Food	4
Treasure Cot Co.	Cot	1
N.S.P.C.C.	Clothing	4

Boarded out children were visited for the Potterspury Board of Guardians and for the Daventry Board of Guardians. Written reports were presented quarterly. In the case of Daventry the quarterly meetings of the Board were attended, and the reports presented personally. In this case the Health Visitor also serves on the Distress Committee.

Our breast feeding figure has had a sad relapse, owing, I think, to the unemployment, the suspension of free milk, and the reduced amount of free milk given. Whatever the cause as regards breast feeding we are suddenly, after a steady rise since 1910, brought down again to the 1910 standard. This is partly due to increased supervision, since no infant is counted as entirely breast fed if it has even one rusk a day and the more closely one supervises the less likely one is to miss these deviations from strict breast feeding.

The long-tubed bottle, too, is more in evidence than formerly, 30 having been seen in use.

Tables have been prepared showing the age to which infants are breast fed also the reasons for artificial or part artificial feeding. It will be seen that the bulk of the cases come under reasons 3—7 inclusive, also that when an infant is breast fed there is a tendency to continue the breast feeding for longer than is advisable. Both these are presumably due to the poverty which has been so detrimental to the progress of infants this year.

LILA S. GREIG.

Lady Medical Officer.

TABLE V.

FEEDING OF INFANTS.

No. of new cases (1921), 3095. (Brackley area not included).

				Cases still on books.	Removed from County.	Deaths.
Entirely Breast fed for 12 months				14	—	—
„ „ „ 11 „				29	2	—
„ „ „ 10 „				115	4	4
„ „ „ 9 „				343	5	4
„ „ „ 8 „				338	10	1
„ „ „ 7 „				377	14	7
„ „ „ 6 „				150	8	1
„ „ „ 5 „				77	10	1
„ „ „ 4 „				106	13	6
„ „ „ 3 „				158	16	5
„ „ „ 2 „				181	23	14
„ „ „ 1 month				161	9	13
Infants 6 months old still breast fed				131		
Infants not yet 6 months old still breast fed	...	...		281		
DURING PUERPERIUM :—						
Partly Breast and partly artificially fed	...	...		94	1	2
Entirely artificially	...	...		308	30	29
REASONS FOR ENTIRELY ARTIFICIALLY FEEDING.						
1—Medical Advice	...	...		83	8	9
2—Other „ „	...	...		3	—	—
3—Failure of breast milk	...			99	18	15
4—Insufficient breast milk	...			33	—	—
5—Infant not thriving	...	...		1	—	—
6—Infant refused breast	...			5	—	1
7—Health of Mother	...	...		24	1	3
8—Death of Mother	...	...		4	—	1
9—Mother working	...	...		20	3	—
10—Deformed or sore nipples	...			19	—	—

			Cases still on books.	Removed from County.	Deaths
11—Breast abscess	...	...	7	—	—
12—Cleft Palate	...	...	3	—	—
13—Averse to breast feeding	...	...	7	—	—
			—	—	—
			308	30	29
			—	—	—

REASONS FOR PARTLY ARTIFICIALLY FEEDING.

			Cases still on books.	Removed from County.	Deaths.
1—Medical Advice	...	...	104	5	6
2—Other	„	...	4	—	—
3—Failure of breast milk	...	...	117	—	2
4—Insufficient breast milk	...	...	268	13	9
5—Infant “not satisfied”	...	...	76	3	—
6—Infant not thriving	...	...	30	—	—
7—Health of mother	...	...	102	3	2
8—Death of mother	...	...	1	—	—
9—Mother working	...	...	36	—	—
10—Deformed or sore nipples	...	...	4	—	—
11—Breast abscess	...	...	13	—	—
12—Pregnancy	...	...	5	—	—
13—Averse to breast feeding	...	...	5	—	—
14—Cleft Palate	...	...	1	—	—
15—Infant unable to suck	...	...	5	—	—
16—No valid reason	...	...	6	—	—
			—	—	—
			777	24	19
			—	—	—

DIET FOR ENTIRELY ARTIFICIALLY FED INFANTS.

			Cases still on books.	Removed from County.	Deaths.
Cows' milk modified	...	...	177	22	19
„ and barley water	...	...	28	1	1
„ „ other food	...	...	19	1	—
„ „ dried milk	...	...	10	3	2
„ only (Citrated)	...	...	1	—	—
Dried milk	...	...	48	2	3
Goats' milk	...	...	2	—	—
Condensed milk	...	...	20	1	3
Peptonised „	...	...	—	—	1
Humanised milk	...	...	1	—	—
Rusks, biscuits or bread	...	...	2	—	—
			308	30	29

DIET OF PARTLY ARTIFICIALLY FED INFANTS.

			Cases still on books.	Removed from County.	Deaths.
Cows' milk modified	...	...	422	13	10
„ and barley water	...	...	33	—	—
„ „ other food	...	...	56	—	2
„ „ dried milk	...	...	1	—	2
„ only (Citrated)	...	...	7	—	—
Dried milk	...	...	160	7	4
Condensed milk	...	...	38	3	1
Peptonised „	...	...	3	—	—
Humanised milk	...	...	2	—	—
Rusks, biscuits or bread	...	...	55	1	—
			777	24	19

PARTLY OR WHOLLY ARTIFICIALLY FED INFANTS—HAND
FEEDING BY :—

			Cases still on books.	Removed from County.	Deaths.
Boat shaped bottle	...	...	913	52	46
Medicine bottle	...	...	29	—	1
Long-tubed „	...	...	28	1	1
Cup and Spoon	...	...	115	1	—
			—	—	—
			1085	54	48
			—	—	—

TABLE I.

CAUSES OF DEATH IN ADMINISTRATIVE AREAS.

URBAN DISTRICTS.																												RURAL DISTRICTS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CAUSES OF DEATH. (CIVILIANS ONLY)				Kettering U.D.		Brackley U.D.		Daventry M.B.		Desborough U.D.		Finedon U.D.		Higham Ferrers M.B.		Irthlingborough U.D.		Oundle U.D.		Raunds U.D.		Rothwell U.D.		Rushden U.D.		Wellingborough U.D.		Total U.D.'s.		Brackley R.D.		Brixworth R.D.		Crick R.D.		Daventry R.D.		Easton-on-the-Hill R.D.		Gretton R.D.		Hardingstone R.D.		Kettering R.D.		Middletton Cheney R.D.		Northampton R.D.		Oundle R.D. (part of)		Oxendon R.D.		Potterspury R.D.		Thrapston R.D. (part of)		Towcester R.D.		Wellingborough R.D.		Total R.D.'s.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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* For Death Rate.

Cases of Infectious Disease Notified during the Year 1921.

TABLE II.

DISEASES.	URBAN DISTRICTS.													RURAL DISTRICTS.														Totals for Administrative County.			
	Brackley (Borough)	Daventry (Borough)	Higham Ferrers (Boro')	Desborough	Finedon	Irthlingborough	Kettering	Oundle	Raunds	Rothwell	Rushden	Wellingborough	Totals for Combined Urban Districts.	Brackley	Brixworth	Crick	Daventry	Easton-on-the-Hill	Gretton	Hardingstone	Kettering	Middleton Cheney	Northampton	Oundle	Oxendon	Potterspury	Thrapston		Towcester	Wellingborough	Totals for Combined Rural Districts.
Scarlet Fever	1	3	1	22	3	4	102	2	16	...	4	20	178	8	10	...	25	2	...	11	13	...	6	18	...	8	7	3	8	119	297
Diphtheria (including Membranous Croup) ...	1	3	1	...	...	...	40	3	...	13	3	31	95	3	13	2	50	...	...	4	6	...	7	2	...	...	16	4	11	118	213
Erysipelas ... ..	...	...	...	1	1	1	7	...	...	2	4	18	34	2	7	...	3	...	...	1	4	...	...	1	...	2	1	1	1	23	57
Ophthalmia Neonatorum ...	...	...	...	...	...	...	7	...	...	...	1	1	9	...	1	...	2	...	...	1	...	1	...	1	...	...	...	...	...	6	15
Acute Poliomyelitis ... ..	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	3
Encephalitis Lethargica ...	...	...	...	...	...	1	2	...	...	...	...	2	5	...	...	...	...	...	...	1	...	...	...	2	...	...	1	...	...	4	9
Enteric Fever ... ..	...	...	...	...	...	1	1	...	...	...	2	...	4	...	...	2	...	...	...	...	1	...	6	...	...	...	6	...	...	15	19
Puerperal Fever ... ..	...	...	...	...	...	...	3	...	...	1	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	5
Pulmonary Tuberculosis ...	2	4	2	5	7	8	53	...	6	3	19	30	139	8	20	1	8	...	1	10	17	3	10	5	5	3	7	6	16	120	259
Other Forms of Tuberculosis	2	1	...	...	1	4	14	...	2	...	2	10	36	1	4	1	2	...	...	2	2	...	...	1	...	1	1	...	2	17	53
Pneumonia	1	1	...	2	5	...	24	2	3	4	7	18	67	...	9	4	10	...	...	3	1	...	2	...	...	8	...	13	11	61	128
Malaria ... ..	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Totals	7	12	4	31	18	19	255	7	27	23	42	130	575	22	64	10	100	2	1	33	44	4	31	30	5	22	40	28	49	485	1,060

